

- [3487] P.F. Roche, D.K. Aitken, C.H. Smith and S.D. James, *Old cold dust heated by supernova 1987A*, *Nature* **337** (1989) 533.
- [3488] J.E. Felten and E. Dwek, *Infrared and optical evidence for a dust cloud behind supernova 1987A*, *Nature* **339** (1989) 123.
- [3489] L.B. Lucy, I.J. Danziger, C. Gouiffes and P. Bouchet, *Dust Condensation in the Ejecta of SN 1987A, II*, in *Supernovae*, S.E. Woosley ed., Springer New York (1991), p. 82–94 [[DOI:10.1007/978-1-4612-2988-9\\_8](https://doi.org/10.1007/978-1-4612-2988-9_8)].
- [3490] R. Indebetouw et al., *Dust Production and Particle Acceleration in Supernova 1987A Revealed with ALMA*, *Astrophys. J. Lett.* **782** (2014) L2 [[arXiv:1312.4086](https://arxiv.org/abs/1312.4086)] [[INSPIRE](#)].
- [3491] K. Scholberg, *Supernova Neutrino Detection*, *Ann. Rev. Nucl. Part. Sci.* **62** (2012) 81 [[arXiv:1205.6003](https://arxiv.org/abs/1205.6003)] [[INSPIRE](#)].
- [3492] G. Zanardo et al., *Spectral and morphological analysis of the remnant of Supernova 1987A with ALMA and ATCA*, *Astrophys. J.* **796** (2014) 82 [[arXiv:1409.7811](https://arxiv.org/abs/1409.7811)] [[INSPIRE](#)].
- [3493] M. Matsuura et al., *ALMA spectral survey of Supernova 1987A — molecular inventory, chemistry, dynamics and explosive nucleosynthesis*, *Mon. Not. Roy. Astron. Soc.* **469** (2017) 3347 [[arXiv:1704.02324](https://arxiv.org/abs/1704.02324)] [[INSPIRE](#)].
- [3494] C. Fransson et al., *Emission lines due to ionizing radiation from a compact object in the remnant of Supernova 1987A*, *Science* **383** (2024) 898 [[arXiv:2403.04386](https://arxiv.org/abs/2403.04386)] [[INSPIRE](#)].
- [3495] S.D. Van Dyk, *Supernova Progenitors Observed with HST*, in *Handbook of Supernovae*, A.W. Alsabti and P. Murdin eds., Springer International Publishing (2017), p. 693–719 [[DOI:10.1007/978-3-319-21846-5\\_126](https://doi.org/10.1007/978-3-319-21846-5_126)].
- [3496] J.J. Eldridge et al., *The death of massive stars — II. Observational constraints on the progenitors of type Ibc supernovae*, *Mon. Not. Roy. Astron. Soc.* **436** (2013) 774 [[arXiv:1301.1975](https://arxiv.org/abs/1301.1975)] [[INSPIRE](#)].
- [3497] J.P. Anderson, S.M. Habergham, P.A. James and M. Hamuy, *Progenitor mass constraints for core-collapse supernovae from correlations with host galaxy star formation*, *Mon. Not. Roy. Astron. Soc.* **424** (2012) 1372 [[arXiv:1205.3802](https://arxiv.org/abs/1205.3802)] [[INSPIRE](#)].
- [3498] J.J. Eldridge and J.R. Maund, *The disappearance of the helium-giant progenitor of the type Ib supernova iPTF13bvn and constraints on its companion*, *Mon. Not. Roy. Astron. Soc.* **461** (2016) L117 [[arXiv:1604.05050](https://arxiv.org/abs/1604.05050)] [[INSPIRE](#)].
- [3499] C.D. Kilpatrick et al., *A cool and inflated progenitor candidate for the Type Ib supernova 2019yvr at 2.6 yr before explosion*, *Mon. Not. Roy. Astron. Soc.* **504** (2021) 2073 [[arXiv:2101.03206](https://arxiv.org/abs/2101.03206)] [[INSPIRE](#)].
- [3500] C.D. Kilpatrick et al., *A Potential Progenitor for the Type Ic Supernova 2017ein*, *Mon. Not. Roy. Astron. Soc.* **480** (2018) 2072 [[arXiv:1808.02989](https://arxiv.org/abs/1808.02989)] [[INSPIRE](#)].
- [3501] S.D. Van Dyk et al., *SN 2017ein and the Possible First Identification of a Type Ic Supernova Progenitor*, *Astrophys. J.* **860** (2018) 90 [[arXiv:1803.01050](https://arxiv.org/abs/1803.01050)] [[INSPIRE](#)].
- [3502] D. Xiang et al., *Observations of SN 2017ein Reveal Shock Breakout Emission and A Massive Progenitor Star for a Type Ic Supernova*, *Astrophys. J.* **871** (2019) 176 [[arXiv:1812.03076](https://arxiv.org/abs/1812.03076)] [[INSPIRE](#)].
- [3503] Y. Cai, A. Reguitti, G. Valerin and X. Wang, *Gap Transients Interacting with Circumstellar Medium*, *Universe* **8** (2022) 493 [[arXiv:2209.11815](https://arxiv.org/abs/2209.11815)] [[INSPIRE](#)].

- [3504] S.E. Woosley and J.S. Bloom, *The Supernova Gamma-Ray Burst Connection*, *Ann. Rev. Astron. Astrophys.* **44** (2006) 507 [[astro-ph/0609142](#)] [[INSPIRE](#)].
- [3505] A. Gal-Yam, *Luminous Supernovae*, *Science* **337** (2012) 927 [[arXiv:1208.3217](#)] [[INSPIRE](#)].
- [3506] M. Modjaz, Y.Q. Liu, F.B. Bianco and O. Graur, *The Spectral SN-GRB Connection: Systematic Spectral Comparisons between Type Ic Supernovae, and broad-lined Type Ic Supernovae with and without Gamma-Ray Bursts*, *Astrophys. J.* **832** (2016) 108 [[arXiv:1509.07124](#)] [[INSPIRE](#)].
- [3507] T.J. Galama et al., *Discovery of the peculiar supernova 1998bw in the error box of GRB 980425*, *Nature* **395** (1998) 670 [[astro-ph/9806175](#)] [[INSPIRE](#)].
- [3508] G. Pignata et al., *SN 2009bb: a Peculiar Broad-Lined Type Ic Supernova*, *Astrophys. J.* **728** (2011) 14 [[arXiv:1011.6126](#)] [[INSPIRE](#)].
- [3509] A. Corsi et al., *A Search for Relativistic Ejecta in a Sample of ZTF Broad-lined Type Ic Supernovae*, *Astrophys. J.* **953** (2023) 179 [[arXiv:2210.09536](#)] [[INSPIRE](#)].
- [3510] M. Nicholl, *Superluminous supernovae: an explosive decade*, *Astron. Geophys.* **62** (2021) 5.34 [[arXiv:2109.08697](#)] [[INSPIRE](#)].
- [3511] R.M. Quimby et al., *SN 2005ap: A Most Brilliant Explosion*, *Astrophys. J. Lett.* **668** (2007) L99 [[arXiv:0709.0302](#)] [[INSPIRE](#)].
- [3512] C. Frohmaier et al., *From core collapse to superluminous: The rates of massive stellar explosions from the Palomar Transient Factory*, *Mon. Not. Roy. Astron. Soc.* **500** (2020) 5142 [[arXiv:2010.15270](#)] [[INSPIRE](#)].
- [3513] H. Umeda and K. Nomoto, *How much Ni-56 can be produced in Core-Collapse Supernovae? Evolution and Explosions of 30-100 Msun Stars*, *Astrophys. J.* **673** (2008) 1014 [[arXiv:0707.2598](#)] [[INSPIRE](#)].
- [3514] L. Dessart et al., *Super-luminous supernovae:  $^{56}\text{Ni}$  power versus magnetar radiation*, *Mon. Not. Roy. Astron. Soc.* **426** (2012) L76 [[arXiv:1208.1214](#)] [[INSPIRE](#)].
- [3515] S.E. Woosley, S. Blinnikov and A. Heger, *Pulsational pair instability as an explanation for the most luminous supernovae*, *Nature* **450** (2007) 390 [[arXiv:0710.3314](#)] [[INSPIRE](#)].
- [3516] D. Kasen and L. Bildsten, *Supernova Light Curves Powered by Young Magnetars*, *Astrophys. J.* **717** (2010) 245 [[arXiv:0911.0680](#)] [[INSPIRE](#)].
- [3517] F. Taddia et al., *Analysis of broad-lined Type Ic supernovae from the (intermediate) Palomar Transient Factory*, *Astron. Astrophys.* **621** (2019) A71 [[arXiv:1811.09544](#)] [[INSPIRE](#)].
- [3518] P.K. Blanchard, E. Berger, M. Nicholl and V.A. Villar, *The Pre-explosion Mass Distribution of Hydrogen-poor Superluminous Supernova Progenitors and New Evidence for a Mass-Spin Correlation*, *Astrophys. J.* **897** (2020) 114 [[arXiv:2002.09508](#)] [[INSPIRE](#)].
- [3519] S.E. Woosley, *Bright Supernovae from Magnetar Birth*, *Astrophys. J. Lett.* **719** (2010) L204 [[arXiv:0911.0698](#)] [[INSPIRE](#)].
- [3520] L.-J. Wang et al., *Solving the  $^{56}\text{Ni}$  puzzle of magnetar-powered broad-lined type Ic supernovae*, *Astrophys. J.* **831** (2016) 41 [[arXiv:1608.05482](#)] [[INSPIRE](#)].
- [3521] C. Inserra et al., *Super Luminous Ic Supernovae: catching a magnetar by the tail*, *Astrophys. J.* **770** (2013) 128 [[arXiv:1304.3320](#)] [[INSPIRE](#)].
- [3522] S.Q. Wang, L.J. Wang and Z.G. Dai, *The Energy Sources of Superluminous Supernovae*, *Res. Astron. Astrophys.* **19** (2019) 063 [[arXiv:1902.07943](#)] [[INSPIRE](#)].

- [3523] A. Jerkstrand et al., *Long-duration superluminous supernovae at late times*, *Astrophys. J.* **835** (2017) 13 [[arXiv:1608.02994](#)] [[INSPIRE](#)].
- [3524] D. Lazzati, B.J. Morsony, C.H. Blackwell and M.C. Begelman, *Unifying the Zoo of Jet-Driven Stellar Explosions*, *Astrophys. J.* **750** (2012) 68 [[arXiv:1111.0970](#)] [[INSPIRE](#)].
- [3525] A. Gilkis, N. Soker and O. Papish, *Explaining the most energetic supernovae with an inefficient jet-feedback mechanism*, *Astrophys. J.* **826** (2016) 178 [[arXiv:1511.01471](#)] [[INSPIRE](#)].
- [3526] J. Barnes et al., *A GRB and Broad-lined Type Ic Supernova from a Single Central Engine*, *Astrophys. J.* **860** (2018) 38 [[arXiv:1708.02630](#)] [[INSPIRE](#)].
- [3527] N. Soker and A. Gilkis, *Magnetar-powered superluminous supernovae must first be exploded by jets*, *Astrophys. J.* **851** (2017) 95 [[arXiv:1708.08356](#)] [[INSPIRE](#)].
- [3528] M. Eisenberg, O. Gottlieb and E. Nakar, *Observational signatures of stellar explosions driven by relativistic jets*, *Mon. Not. Roy. Astron. Soc.* **517** (2022) 582 [[arXiv:2201.08432](#)] [[INSPIRE](#)].
- [3529] N. Soker, *The Role of Jets in Exploding Supernovae and in Shaping their Remnants*, *Res. Astron. Astrophys.* **22** (2022) 122003 [[arXiv:2208.04875](#)] [[INSPIRE](#)].
- [3530] L. Wang and J.C. Wheeler, *Spectropolarimetry of Supernovae*, *Ann. Rev. Astron. Astrophys.* **46** (2008) 433 [[arXiv:0811.1054](#)] [[INSPIRE](#)].
- [3531] S. Taubenberger et al., *Nebular emission-line profiles of Type Ib/c Supernovae — probing the ejecta asphericity*, *Mon. Not. Roy. Astron. Soc.* **397** (2009) 677 [[arXiv:0904.4632](#)] [[INSPIRE](#)].
- [3532] R. Chornock et al., *The Transitional Stripped-Envelope SN 2008ax: Spectral Evolution and Evidence for Large Asphericity*, *Astrophys. J.* **739** (2011) 41 [[arXiv:1001.2775](#)] [[INSPIRE](#)].
- [3533] C. Inserra, M. Bulla, S.A. Sim and S.J. Smartt, *Spectropolarimetry of superluminous supernovae: insight into their geometry*, *Astrophys. J.* **831** (2016) 79 [[arXiv:1607.02353](#)] [[INSPIRE](#)].
- [3534] S. Saito et al., *Late-Phase Spectropolarimetric Observations of Superluminous Supernova SN 2017egm to Probe the Geometry of the Inner Ejecta*, *Astrophys. J.* **894** (2020) 154 [[arXiv:2004.03140](#)] [[INSPIRE](#)].
- [3535] A. Heger et al., *How massive single stars end their life*, *Astrophys. J.* **591** (2003) 288 [[astro-ph/0212469](#)] [[INSPIRE](#)].
- [3536] C.S. Kochanek et al., *A Survey About Nothing: Monitoring a Million Supergiants for Failed Supernovae*, *Astrophys. J.* **684** (2008) 1336 [[arXiv:0802.0456](#)] [[INSPIRE](#)].
- [3537] B. Davies and E.R. Beason, *The ‘red supergiant problem’: the upper luminosity boundary of Type II supernova progenitors*, *Mon. Not. Roy. Astron. Soc.* **493** (2020) 468 [[arXiv:2001.06020](#)] [[INSPIRE](#)].
- [3538] C.S. Kochanek, *On the red supergiant problem*, *Mon. Not. Roy. Astron. Soc.* **493** (2020) 4945 [[arXiv:2001.07216](#)].
- [3539] S.M. Adams, C.S. Kochanek, J.R. Gerke and K.Z. Stanek, *The search for failed supernovae with the Large Binocular Telescope: constraints from 7 yr of data*, *Mon. Not. Roy. Astron. Soc.* **469** (2017) 1445 [[arXiv:1610.02402](#)] [[INSPIRE](#)].
- [3540] J.M.M. Neustadt et al., *The search for failed supernovae with the Large Binocular Telescope: a new candidate and the failed SN fraction with 11 yr of data*, *Mon. Not. Roy. Astron. Soc.* **508** (2021) 516 [[arXiv:2104.03318](#)] [[INSPIRE](#)].

- [3541] S.M. Adams et al., *The search for failed supernovae with the Large Binocular Telescope: confirmation of a disappearing star*, *Mon. Not. Roy. Astron. Soc.* **468** (2017) 4968 [[arXiv:1609.01283](#)] [[INSPIRE](#)].
- [3542] C.S. Kochanek, J.M.M. Neustadt and K.Z. Stanek, *The Search for Failed Supernovae with the Large Binocular Telescope: The Mid-infrared Counterpart to N6946-BH1*, *Astrophys. J.* **962** (2024) 145 [[arXiv:2310.01514](#)] [[INSPIRE](#)].
- [3543] S.M. Adams et al., *Observing the Next Galactic Supernova*, *Astrophys. J.* **778** (2013) 164 [[arXiv:1306.0559](#)] [[INSPIRE](#)].
- [3544] C.D. Ott et al., *Dynamics and Gravitational Wave Signature of Collapsar Formation*, *Phys. Rev. Lett.* **106** (2011) 161103 [[arXiv:1012.1853](#)] [[INSPIRE](#)].
- [3545] E. Cappellaro, R. Evans and M. Turatto, *A new determination of supernova rates and a comparison with indicators for galactic star formation*, *Astron. Astrophys.* **351** (1999) 459 [[astro-ph/9904225](#)] [[INSPIRE](#)].
- [3546] J. Leaman, W. Li, R. Chornock and A.V. Filippenko, *Nearby Supernova Rates from the Lick Observatory Supernova Search. I. The Methods and Database*, *Mon. Not. Roy. Astron. Soc.* **412** (2011) 1419 [[arXiv:1006.4611](#)] [[INSPIRE](#)].
- [3547] O. Graur et al., *LOSS Revisited — II: The relative rates of different types of supernovae vary between low- and high-mass galaxies*, *Astrophys. J.* **837** (2017) 121 [[arXiv:1609.02923](#)] [[INSPIRE](#)].
- [3548] E.C. Bellm et al., *The Zwicky Transient Facility: System Overview, Performance, and First Results*, [arXiv:1902.01932](#) [[DOI:10.1088/1538-3873/aaecbe](#)].
- [3549] J.L. Tonry et al., *The ATLAS All-Sky Stellar Reference Catalog*, *Astrophys. J.* **867** (2018) 105.
- [3550] R. Barbon, V. Buondi, E. Cappellaro and M. Turatto, *Asiago Supernova Catalogue: II/283 (Version 2008-Mar)*, VizieR Online Data Catalog, <https://cdsarc.cds.unistra.fr/viz-bin/cat/II/283>, originally published in: *The asiago supernova catalogue- 10 years after*, *Astron. Astrophys. Suppl. Ser.* **139** (1999) 531 [[astro-ph/9908046](#)] [[INSPIRE](#)].
- [3551] E. Kankare et al., *Core-collapse supernova subtypes in luminous infrared galaxies*, *Astron. Astrophys.* **649** (2021) A134 [[arXiv:2102.13512](#)] [[INSPIRE](#)].
- [3552] F. Mannucci, M. Della Valle and N. Panagia, *How many supernovae are we missing at high redshift?*, *Mon. Not. Roy. Astron. Soc.* **377** (2007) 1229 [[astro-ph/0702355](#)] [[INSPIRE](#)].
- [3553] S. Mattila et al., *Core-collapse supernovae missed by optical surveys*, *Astrophys. J.* **756** (2012) 111 [[arXiv:1206.1314](#)] [[INSPIRE](#)].
- [3554] J.E. Jencson et al., *The SPIRITS sample of Luminous Infrared Transients: Uncovering Hidden Supernovae and Dusty Stellar Outbursts in Nearby Galaxies*, *Astrophys. J.* **886** (2019) 40 [[arXiv:1901.00871](#)] [[INSPIRE](#)].
- [3555] O.D. Fox et al., *A Spitzer survey for dust-obscured supernovae*, *Mon. Not. Roy. Astron. Soc.* **506** (2021) 4199 [[arXiv:2106.09733](#)] [[INSPIRE](#)].
- [3556] M. Pérez-Torres et al., *Star formation and nuclear activity in luminous infrared galaxies: an infrared through radio review*, *Astron. Astrophys. Rev.* **29** (2021) 2 [[arXiv:2010.05072](#)].
- [3557] C.S. Kochanek et al., *The k-band galaxy luminosity function*, *Astrophys. J.* **560** (2001) 566 [[astro-ph/0011456](#)] [[INSPIRE](#)].

- [3558] I.D. Karachentsev, V.E. Karachentseva, W.K. Huchtmeier and D.I. Makarov, *A Catalog of Neighboring Galaxies*, *Astron. J.* **127** (2004) 2031 [INSPIRE].
- [3559] R.C. Kennicutt Jr. et al., *An H-alpha Imaging Survey of Galaxies in the Local 11 Mpc Volume*, *Astrophys. J. Suppl.* **178** (2008) 247 [arXiv:0807.2035] [INSPIRE].
- [3560] LOCAL VOLUME LEGACY TEAM collaboration, *UV/H-alpha Turmoil*, *ASP Conf. Ser.* **440** (2011) 179 [arXiv:1011.2181] [INSPIRE].
- [3561] M.T. Botticella et al., *A comparison between star formation rate diagnostics and rate of core collapse supernovae within 11 Mpc*, *Astron. Astrophys.* **537** (2012) A132 [arXiv:1111.1692] [INSPIRE].
- [3562] M. Relano et al., *On how leakage can affect the Star Formation Rate estimation using Halpha luminosity*, *Mon. Not. Roy. Astron. Soc.* **423** (2012) 2933 [arXiv:1204.4502] [INSPIRE].
- [3563] M.S. Bothwell et al., *The Star Formation Rate Distribution Function of the Local Universe*, *Mon. Not. Roy. Astron. Soc.* **415** (2011) 1815 [arXiv:1104.0929] [INSPIRE].
- [3564] A.M. Hopkins and J.F. Beacom, *On the normalisation of the cosmic star formation history*, *Astrophys. J.* **651** (2006) 142 [astro-ph/0601463] [INSPIRE].
- [3565] 2dFGRS collaboration, *The 2dF Galaxy Redshift Survey: Near infrared galaxy luminosity functions*, *Mon. Not. Roy. Astron. Soc.* **326** (2001) 255 [astro-ph/0012429] [INSPIRE].
- [3566] I.K. Baldry and K. Glazebrook, *Constraints on a universal IMF from UV to near-IR galaxy luminosity densities*, *Astrophys. J.* **593** (2003) 258 [astro-ph/0304423] [INSPIRE].
- [3567] R.A. Fesen et al., *The expansion asymmetry and age of the cassiopeia a supernova remnant*, *Astrophys. J.* **645** (2006) 283 [astro-ph/0603371] [INSPIRE].
- [3568] K.J. Luken et al., *Radio Observations of Supernova Remnant G1.9+0.3*, *Mon. Not. Roy. Astron. Soc.* **492** (2020) 2606 [arXiv:1912.01771] [INSPIRE].
- [3569] D.A. Green and S.F. Gull, *Two new young galactic supernova remnants*, *Nature* **312** (1984) 527.
- [3570] S. Reynolds, *Evolution of the youngest galactic supernova remnant g1. 9+ 0.3*, *Chandra Proposal* (2018) 5389.
- [3571] D.A. Green, *A revised catalogue of 294 Galactic supernova remnants*, *J. Astrophys. Astron.* **40** (2019) 36 [arXiv:1907.02638] [INSPIRE].
- [3572] D.H. Clark and F.R. Stephenson, *The historical supernovae*, Pergamon (1977).
- [3573] D.A. Green, *Historical Supernovae in the Galaxy from AD 1006*, in *Handbook of Supernovae*, Springer International Publishing (2017), p. 37–48 [DOI:10.1007/978-3-319-21846-5\_2].
- [3574] N. Smith, *The Crab Nebula and the class of Type II<sub>n</sub>-P supernovae caused by sub-energetic electron capture explosions*, *Mon. Not. Roy. Astron. Soc.* **434** (2013) 102 [arXiv:1304.0689] [INSPIRE].
- [3575] R. Kothes, *A Thorough Investigation of Distance and Age of the Pulsar Wind Nebula 3C58*, *Astron. Astrophys.* **560** (2013) A18 [arXiv:1307.8384] [INSPIRE].
- [3576] G.A. Tammann, W. Loeffler and A. Schroder, *The galactic supernova rate*, *Astrophys. J. Suppl.* **92** (1994) 487 [INSPIRE].
- [3577] C.T. Murphey, J.W. Hogan, B.D. Fields and G. Narayan, *Witnessing history: sky distribution, detectability, and rates of naked-eye Milky Way supernovae*, *Mon. Not. Roy. Astron. Soc.* **507** (2021) 927 [arXiv:2012.06552] [INSPIRE].

- [3578] E. Cappellaro et al., *The rate of supernovae. 2. The selection effects and the frequencies per unit blue luminosity*, *Astron. Astrophys.* **273** (1993) 383 [[astro-ph/9302017](#)] [[INSPIRE](#)].
- [3579] S. van den Bergh and R.D. McClure, *Rediscussion of extragalactic supernova rates derived from evans's 1980-1988 observations*, *Astrophysical J., Part 1* **425** (1994) 205.
- [3580] B.C. Reed, *New estimates of the solar-neighborhood massive-stars birthrate and the Galactic supernova rate*, *Astron. J.* **130** (2005) 1652 [[astro-ph/0506708](#)] [[INSPIRE](#)].
- [3581] D.A. Leahy and S. Ranaasinghe, *Evolutionary Models for 15 Galactic Supernova Remnants with New Distances*, *Astrophys. J.* **866** (2018) 9 [[arXiv:1808.04716](#)] [[INSPIRE](#)].
- [3582] R. Diehl et al., *Radioactive Al-26 and massive stars in the galaxy*, *Nature* **439** (2006) 45 [[astro-ph/0601015](#)] [[INSPIRE](#)].
- [3583] P.C. Kruit, *Comparison of the Galaxy with External Spiral Galaxies*, in *The Galaxy*, Springer Netherlands (1987), p. 27–50 [[DOI:10.1007/978-94-009-3925-7\\_2](#)].
- [3584] R. Evans, S. van den Bergh and R.D. McClure, *Revised supernova rates in Shapley-Ames galaxies*, *Astrophys. J.* **345** (1989) 752.
- [3585] M.M. Hohle, R. Neuhaeuser and B.F. Schutz, *Masses and Luminosities of O and B-type stars and red super giants*, *Astron. Nachr.* **331** (2010) 349 [[arXiv:1003.2335](#)] [[INSPIRE](#)].
- [3586] R.M. Cutri et al., *2MASS All Sky Catalog of point sources*, <http://irsa.ipac.caltech.edu/applications/Gator> (2003).
- [3587] M.A.C. Perryman et al., *The Hipparcos catalogue*, *Astron. Astrophys.* **323** (1997) L49 [[INSPIRE](#)].
- [3588] G. Bertelli et al., *Theoretical isochrones from models with new radiative opacities*, *Astron. Astrophys. Suppl. Ser.* **106** (1994) 275 [[INSPIRE](#)].
- [3589] A. Claret, *New grids of stellar models including tidal-evolution constants up to carbon burning: IV. From 0.8 to 125M<sub>⊙</sub>: high metallicities (Z = 0.04–0.10)*, *Astron. Astrophys.* **467** (2007) 1389.
- [3590] G. Schaller, D. Schaerer, G. Meynet and A. Maeder, *New grids of stellar models from 0.8 to 120 solar masses at Z = 0.020 and Z = 0.001*, *Astron. Astrophys. Suppl. Ser.* **96** (1992) 269 [[INSPIRE](#)].
- [3591] E.F. Keane and M. Kramer, *On the birthrates of Galactic neutron stars*, *Mon. Not. Roy. Astron. Soc.* **391** (2008) 2009 [[arXiv:0810.1512](#)] [[INSPIRE](#)].
- [3592] C. Kouveliotou et al., *An X-ray pulsar with a superstrong magnetic field in the soft gamma-ray repeater SGR 1806-20*, *Nature* **393** (1998) 235 [[INSPIRE](#)].
- [3593] J. van Paradijs, R.E. Taam and E.P.J. van den Heuvel, *On the nature of the 'anomalous' 6-s X-ray pulsars*, *Astron. Astrophys.* **299** (1995) L41.
- [3594] C.-A. Faucher-Giguere and V.M. Kaspi, *Birth and evolution of isolated radio pulsars*, *Astrophys. J.* **643** (2006) 332 [[astro-ph/0512585](#)] [[INSPIRE](#)].
- [3595] D.R. Lorimer et al., *The Parkes multibeam pulsar survey: VI. Discovery and timing of 142 pulsars and a Galactic population analysis*, *Mon. Not. Roy. Astron. Soc.* **372** (2006) 777 [[astro-ph/0607640](#)] [[INSPIRE](#)].
- [3596] N. Vranesevic et al., *Pulsar birthrate from Parkes multi-beam survey*, *Astrophys. J. Lett.* **617** (2004) L139 [[astro-ph/0310201](#)] [[INSPIRE](#)].

- [3597] R. Gill and J. Heyl, *The Birthrate of Magnetars*, *Mon. Not. Roy. Astron. Soc.* **381** (2007) 52 [[astro-ph/0703346](#)] [[INSPIRE](#)].
- [3598] S.B. Popov, R. Turolla and A. Possenti, *A tale of two populations: rotating radio transients and x-ray dim isolated neutron stars*, *Mon. Not. Roy. Astron. Soc.* **369** (2006) L23 [[astro-ph/0603258](#)] [[INSPIRE](#)].
- [3599] D.A. Leahy, S. Ranasinghe and M. Gelowitz, *Evolutionary Models for 43 Galactic Supernova Remnants with Distances and X-ray Spectra*, *Astrophys. J. Suppl.* **248** (2020) 16 [[arXiv:2003.08998](#)] [[INSPIRE](#)].
- [3600] A.G.W. Cameron and J.W. Truran, *The supernova trigger for formation of the solar system*, *Icarus* **30** (1977) 447.
- [3601] J.M. Scalo, *The stellar initial mass function*, *Fund. Cosmic Phys.* **11** (1986) 1 [[INSPIRE](#)].
- [3602] M. Limongi and A. Chieffi, *The nucleosynthesis of Al-26 and Fe-60 in solar metallicity stars extending in mass from 11 to 120 solar masses: the hydrostatic and explosive contributions*, *Astrophys. J.* **647** (2006) 483 [[astro-ph/0604297](#)] [[INSPIRE](#)].
- [3603] A. Borghese, *Exploring the neutron star zoo: An observational review*, *IAU Symp.* **363** (2020) 51 [[arXiv:2405.02368](#)] [[INSPIRE](#)].
- [3604] D.R. Lorimer and M. Kramer, *Handbook of Pulsar Astronomy*, Vol. 4, Cambridge University Press (2004).
- [3605] R.F. Archibald et al., *A High Braking Index for a Pulsar*, *Astrophys. J. Lett.* **819** (2016) L16 [[arXiv:1603.00305](#)] [[INSPIRE](#)].
- [3606] R.N. Manchester, G.B. Hobbs, A. Teoh and M. Hobbs, *The Australia Telescope National Facility pulsar catalogue*, *Astron. J.* **129** (2005) 1993 [[astro-ph/0412641](#)] [[INSPIRE](#)].
- [3607] F. Coti Zelati et al., *Systematic study of magnetar outbursts*, *Mon. Not. Roy. Astron. Soc.* **474** (2018) 961 [[arXiv:1710.04671](#)] [[INSPIRE](#)].
- [3608] A. Philippov, A. Timokhin and A. Spitkovsky, *Origin of Pulsar Radio Emission*, *Phys. Rev. Lett.* **124** (2020) 245101 [[arXiv:2001.02236](#)] [[INSPIRE](#)].
- [3609] A.K. Harding, *Pulsar high-energy emission models*, *PoS HEASA2021* (2022) 047 [[INSPIRE](#)].
- [3610] H. Ding et al., *The Orbital-decay Test of General Relativity to the 2% Level with 6 yr VLBA Astrometry of the Double Neutron Star PSR J1537+1155*, *Astrophys. J. Lett.* **921** (2021) L19 [[arXiv:2110.10590](#)] [[INSPIRE](#)].
- [3611] M. Antonelli, A. Montoli and P. Pizzochero, *Insights into the physics of neutron star interiors from pulsar glitches*, in *Astrophysics in the XXI Century with Compact Stars*, World Scientific (2023) pp. 219–281 [[DOI:10.1142/9789811220944\\_0007](#)] [[arXiv:2301.12769](#)] [[INSPIRE](#)].
- [3612] R.N. Manchester, *Pulsar Glitches*, *IAU Symp.* **337** (2017) 197 [[arXiv:1801.04332](#)] [[INSPIRE](#)].
- [3613] D. Antonopoulou, B. Haskell and C.M. Espinoza, *Pulsar glitches: observations and physical interpretation*, *Rept. Prog. Phys.* **85** (2022) 126901 [[INSPIRE](#)].
- [3614] B. Haskell and A. Melatos, *Models of Pulsar Glitches*, *Int. J. Mod. Phys. D* **24** (2015) 1530008 [[arXiv:1502.07062](#)] [[INSPIRE](#)].
- [3615] M. Antonelli, A. Basu and B. Haskell, *Stochastic processes for pulsar timing noise: fluctuations in the internal and external torques*, *Mon. Not. Roy. Astron. Soc.* **520** (2023) 2813 [[arXiv:2206.10416](#)] [[INSPIRE](#)].

- [3616] G. Yim and D.I. Jones, *Transient gravitational waves from pulsar post-glitch recoveries*, *Mon. Not. Roy. Astron. Soc.* **498** (2020) 3138 [[arXiv:2007.05893](#)] [[INSPIRE](#)].
- [3617] G. Yim and D.I. Jones, *Gravitational waves from small spin-up and spin-down events of neutron stars*, *Mon. Not. Roy. Astron. Soc.* **518** (2022) 4322 [[arXiv:2204.12869](#)] [[INSPIRE](#)].
- [3618] B. Haskell and D.I. Jones, *Glitching pulsars as gravitational wave sources*, *Astropart. Phys.* **157** (2024) 102921 [[arXiv:2311.04586](#)] [[INSPIRE](#)].
- [3619] P. Esposito, N. Rea and G.L. Israel, *Magnetars: a short review and some sparse considerations*, *Astrophys. Space Sci. Libr.* **461** (2020) 97 [[arXiv:1803.05716](#)] [[INSPIRE](#)].
- [3620] V.M. Kaspi and A. Beloborodov, *Magnetars*, *Ann. Rev. Astron. Astrophys.* **55** (2017) 261 [[arXiv:1703.00068](#)] [[INSPIRE](#)].
- [3621] S. Mereghetti et al., *A magnetar giant flare in the nearby starburst galaxy M82*, [arXiv:2312.14645](#) [[INSPIRE](#)].
- [3622] A. Patruno and A.L. Watts, *Accreting Millisecond X-Ray Pulsars*, *Astrophys. Space Sci. Libr.* **461** (2020) 143 [[arXiv:1206.2727](#)] [[INSPIRE](#)].
- [3623] A. Papitto et al., *Swings between rotation and accretion power in a millisecond binary pulsar*, *Nature* **501** (2013) 517 [[arXiv:1305.3884](#)] [[INSPIRE](#)].
- [3624] F. Ambrosino et al., *Optical pulsations from a transitional millisecond pulsar*, *Nature Astron.* **1** (2017) 854 [[arXiv:1709.01946](#)] [[INSPIRE](#)].
- [3625] A.G. Suvorov, A. Mastrano and U. Geppert, *Gravitational radiation from neutron stars deformed by crustal Hall drift*, *Mon. Not. Roy. Astron. Soc.* **459** (2016) 3407 [[arXiv:1604.04305](#)] [[INSPIRE](#)].
- [3626] F. Gittins and N. Andersson, *Modelling neutron star mountains in relativity*, *Mon. Not. Roy. Astron. Soc.* **507** (2021) 116 [[arXiv:2105.06493](#)] [[INSPIRE](#)].
- [3627] N. Andersson and K.D. Kokkotas, *Towards gravitational wave asteroseismology*, *Mon. Not. Roy. Astron. Soc.* **299** (1998) 1059 [[gr-qc/9711088](#)] [[INSPIRE](#)].
- [3628] B. Haskell, *R-modes in neutron stars: Theory and observations*, *Int. J. Mod. Phys. E* **24** (2015) 1541007 [[arXiv:1509.04370](#)] [[INSPIRE](#)].
- [3629] F.J. Fattoyev, C.J. Horowitz and H. Lu, *Crust breaking and the limiting rotational frequency of neutron stars*, [arXiv:1804.04952](#) [[INSPIRE](#)].
- [3630] F. Gittins and N. Andersson, *Population Synthesis of Accreting Neutron Stars Emitting Gravitational Waves*, *Mon. Not. Roy. Astron. Soc.* **488** (2019) 99 [[arXiv:1811.00550](#)] [[INSPIRE](#)].
- [3631] Y. Zhang, M.A. Papa, B. Krishnan and A.L. Watts, *Search for Continuous Gravitational Waves from Scorpius X-1 in LIGO O2 Data*, *Astrophys. J. Lett.* **906** (2021) L14 [[arXiv:2011.04414](#)] [[INSPIRE](#)].
- [3632] LIGO SCIENTIFIC et al. collaborations, *Model-based Cross-correlation Search for Gravitational Waves from the Low-mass X-Ray Binary Scorpius X-1 in LIGO O3 Data*, *Astrophys. J. Lett.* **941** (2022) L30 [[arXiv:2209.02863](#)] [[INSPIRE](#)].
- [3633] M. Priymak, A. Melatos and P. Lasky, *Cyclotron line signatures of thermal and magnetic mountains from accreting neutron stars*, *Mon. Not. Roy. Astron. Soc.* **445** (2014) 2710 [[arXiv:1409.3327](#)] [[INSPIRE](#)].

- [3634] B. Haskell et al., *Detecting gravitational waves from mountains on neutron stars in the Advanced Detector Era*, *Mon. Not. Roy. Astron. Soc.* **450** (2015) 2393 [[arXiv:1501.06039](#)] [[INSPIRE](#)].
- [3635] N. Sarin, P.D. Lasky and G. Ashton, *Interpreting the X-ray afterglows of gamma-ray bursts with radiative losses and millisecond magnetars*, *Mon. Not. Roy. Astron. Soc.* **499** (2020) 5986 [[arXiv:2008.05745](#)] [[INSPIRE](#)].
- [3636] H. Gao, B. Zhang and H.-J. Lü, *Constraints on binary neutron star merger product from short GRB observations*, *Phys. Rev. D* **93** (2016) 044065 [[arXiv:1511.00753](#)] [[INSPIRE](#)].
- [3637] S. Dall’Osso and L. Stella, *Millisecond Magnetars*, *Astrophys. Space Sci. Libr.* **465** (2021) 245 [[arXiv:2103.10878](#)] [[INSPIRE](#)].
- [3638] A. Sur and B. Haskell, *Gravitational waves from mountains in newly born millisecond magnetars*, *Mon. Not. Roy. Astron. Soc.* **502** (2021) 4680 [[arXiv:2010.15574](#)] [[INSPIRE](#)].
- [3639] C. Palomba, *Gravitational radiation from young magnetars: Preliminary results*, *Astron. Astrophys.* **367** (2001) 525.
- [3640] L. Stella, S. Dall’Osso, G.L. Israel and A. Vecchio, *Gravitational radiation from newborn magnetars*, *Astrophys. J. Lett.* **634** (2005) L165 [[astro-ph/0511068](#)] [[INSPIRE](#)].
- [3641] S. Dall’Osso, L. Stella and C. Palomba, *Neutron star bulk viscosity, ‘spin-flip’ and GW emission of newly born magnetars*, *Mon. Not. Roy. Astron. Soc.* **480** (2018) 1353 [[arXiv:1806.11164](#)] [[INSPIRE](#)].
- [3642] A. Rowlinson et al., *Signatures of magnetar central engines in short GRB lightcurves*, *Mon. Not. Roy. Astron. Soc.* **430** (2013) 1061 [[arXiv:1301.0629](#)] [[INSPIRE](#)].
- [3643] N. Bucciantini, B.D. Metzger, T.A. Thompson and E. Quataert, *Short GRBs with Extended Emission from Magnetar Birth: Jet Formation and Collimation*, *Mon. Not. Roy. Astron. Soc.* **419** (2012) 1537 [[arXiv:1106.4668](#)] [[INSPIRE](#)].
- [3644] H.-J. Lü et al., *Evidence for gravitational-wave dominated emission in the central engine of short GRB 200219A*, *Astrophys. J. Lett.* **898** (2020) L6 [[arXiv:2007.01124](#)] [[INSPIRE](#)].
- [3645] M.G. Bernardini, *Gamma-ray bursts and magnetars: Observational signatures and predictions*, *JHEAp* **7** (2015) 64 [[INSPIRE](#)].
- [3646] P.D. Lasky et al., *Nuclear Equation of State from Observations of Short Gamma-Ray Burst Remnants*, *Phys. Rev. D* **89** (2014) 047302 [[arXiv:1311.1352](#)] [[INSPIRE](#)].
- [3647] L. Keer and D.I. Jones, *Developing a model for neutron star oscillations following starquakes*, *Mon. Not. Roy. Astron. Soc.* **446** (2015) 865 [[arXiv:1408.1249](#)] [[INSPIRE](#)].
- [3648] W.C.G. Ho, D.I. Jones, N. Andersson and C.M. Espinoza, *Gravitational waves from transient neutron star f-mode oscillations*, *Phys. Rev. D* **101** (2020) 103009 [[arXiv:2003.12082](#)] [[INSPIRE](#)].
- [3649] P.M. Meyers, A. Melatos and N.J. O’Neill, *Parameter estimation of a two-component neutron star model with spin wandering*, *Mon. Not. Roy. Astron. Soc.* **502** (2021) 3113 [[arXiv:2101.12421](#)] [[INSPIRE](#)].
- [3650] G. Yim, L. Shao and R. Xu, *High-priority targets for transient gravitational waves from glitching pulsars*, *Mon. Not. Roy. Astron. Soc.* **532** (2024) 3893 [[arXiv:2406.00283](#)] [[INSPIRE](#)].
- [3651] LIGO SCIENTIFIC et al. collaborations, *Narrowband Searches for Continuous and Long-duration Transient Gravitational Waves from Known Pulsars in the LIGO-Virgo Third Observing Run*, *Astrophys. J.* **932** (2022) 133 [[arXiv:2112.10990](#)] [[INSPIRE](#)].

- [3652] R.S.L. Hansen, M. Lindner and O. Scholer, *Timing the neutrino signal of a Galactic supernova*, *Phys. Rev. D* **101** (2020) 123018 [[arXiv:1904.11461](#)] [[INSPIRE](#)].
- [3653] LIGO SCIENTIFIC and VIRGO collaborations, *A First Targeted Search for Gravitational-Wave Bursts from Core-Collapse Supernovae in Data of First-Generation Laser Interferometer Detectors*, *Phys. Rev. D* **94** (2016) 102001 [[arXiv:1605.01785](#)] [[INSPIRE](#)].
- [3654] LIGO SCIENTIFIC and VIRGO collaborations, *Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo*, *Phys. Rev. D* **101** (2020) 084002 [[arXiv:1908.03584](#)] [[INSPIRE](#)].
- [3655] M.J. Szczepańczyk et al., *Optically targeted search for gravitational waves emitted by core-collapse supernovae during the third observing run of Advanced LIGO and Advanced Virgo*, *Phys. Rev. D* **110** (2024) 042007 [[arXiv:2305.16146](#)] [[INSPIRE](#)].
- [3656] SUPER-KAMIOKANDE collaboration, *Search for Supernova Neutrino Bursts at Super-Kamiokande*, *Astrophys. J.* **669** (2007) 519 [[arXiv:0706.2283](#)] [[INSPIRE](#)].
- [3657] HYPER-KAMIOKANDE collaboration, *Supernova Model Discrimination with Hyper-Kamiokande*, *Astrophys. J.* **916** (2021) 15 [[arXiv:2101.05269](#)] [[INSPIRE](#)].
- [3658] S. Klimenko et al., *Method for detection and reconstruction of gravitational wave transients with networks of advanced detectors*, *Phys. Rev. D* **93** (2016) 042004 [[arXiv:1511.05999](#)] [[INSPIRE](#)].
- [3659] P.J. Sutton et al., *X-Pipeline: An analysis package for autonomous gravitational-wave burst searches*, *New J. Phys.* **12** (2010) 053034 [[arXiv:0908.3665](#)] [[INSPIRE](#)].
- [3660] A. Macquet, M.-A. Bizouard, N. Christensen and M. Coughlin, *Long-duration transient gravitational-wave search pipeline*, *Phys. Rev. D* **104** (2021) 102005 [[arXiv:2108.10588](#)] [[INSPIRE](#)].
- [3661] N.J. Cornish et al., *BayesWave analysis pipeline in the era of gravitational wave observations*, *Phys. Rev. D* **103** (2021) 044006 [[arXiv:2011.09494](#)] [[INSPIRE](#)].
- [3662] LIGO SCIENTIFIC and VIRGO collaborations, *All-Sky Search for Short Gravitational-Wave Bursts in the Second Advanced LIGO and Advanced Virgo Run*, *Phys. Rev. D* **100** (2019) 024017 [[arXiv:1905.03457](#)] [[INSPIRE](#)].
- [3663] Z. Lin et al., *Characterizing a supernova’s standing accretion shock instability with neutrinos and gravitational waves*, *Phys. Rev. D* **107** (2023) 083017 [[arXiv:2211.07878](#)] [[INSPIRE](#)].
- [3664] C.J. Richardson et al., *Detecting Gravitational Wave Memory in the Next Galactic Core-Collapse Supernova*, *Phys. Rev. Lett.* **133** (2024) 231401 [[arXiv:2404.02131](#)] [[INSPIRE](#)].
- [3665] J. Powell and B. Müller, *The gravitational-wave emission from the explosion of a 15 solar mass star with rotation and magnetic fields*, *Mon. Not. Roy. Astron. Soc.* **532** (2024) 4326 [[arXiv:2406.09691](#)] [[INSPIRE](#)].
- [3666] P. Astone et al., *New method to observe gravitational waves emitted by core collapse supernovae*, *Phys. Rev. D* **98** (2018) 122002 [[arXiv:1812.05363](#)] [[INSPIRE](#)].
- [3667] M.L. Chan, I.S. Heng and C. Messenger, *Detection and classification of supernova gravitational wave signals: A deep learning approach*, *Phys. Rev. D* **102** (2020) 043022 [[arXiv:1912.13517](#)] [[INSPIRE](#)].
- [3668] M. Cavaglia et al., *Improving the background of gravitational-wave searches for core collapse supernovae: A machine learning approach*, *Mach. Learn. Sci. Tech.* **1** (2020) 015005 [[arXiv:2002.04591](#)] [[INSPIRE](#)].

- [3669] M. López Portilla et al., *Deep learning for core-collapse supernova detection*, *Phys. Rev. D* **103** (2021) 063011 [[arXiv:2011.13733](#)] [[INSPIRE](#)].
- [3670] S. Mukherjee, G. Nurbek and O. Valdez, *Study of efficient methods of detection and reconstruction of gravitational waves from nonrotating 3D general relativistic core collapse supernovae explosion using multilayer signal estimation method*, *Phys. Rev. D* **103** (2021) 103008 [[INSPIRE](#)].
- [3671] D. Lopez et al., *Utilizing Gaussian mixture models in all-sky searches for short-duration gravitational wave bursts*, *Phys. Rev. D* **105** (2022) 063024 [[arXiv:2112.06608](#)] [[INSPIRE](#)].
- [3672] J.M. Antelis et al., *Using supervised learning algorithms as a follow-up method in the search of gravitational waves from core-collapse supernovae*, *Phys. Rev. D* **105** (2022) 084054 [[arXiv:2111.07219](#)] [[INSPIRE](#)].
- [3673] A. Iess et al., *LSTM and CNN application for core-collapse supernova search in gravitational wave real data*, *Astron. Astrophys.* **669** (2023) A42 [[arXiv:2301.09387](#)] [[INSPIRE](#)].
- [3674] A.C. Lagos et al., *Characterizing the temporal evolution of the high-frequency gravitational wave emission for a core collapse supernova with laser interferometric data: A neural network approach*, *Phys. Rev. D* **108** (2023) 084027 [[arXiv:2304.11498](#)] [[INSPIRE](#)].
- [3675] J. Powell et al., *Determining the core-collapse supernova explosion mechanism with current and future gravitational-wave observatories*, *Phys. Rev. D* **109** (2024) 063019 [[arXiv:2311.18221](#)] [[INSPIRE](#)].
- [3676] J. Perez, S. Klimenko, M. Szczepanczyk, T. Mishra and LIGO Team, *Dedicated Core Collapse Supernovae search using the ML-enhanced Coherent WaveBurst search algorithm*, in *APS April Meeting Abstracts* **68** (2023) JJ01.003, <https://meetings.aps.org/Meeting/APR23/Session/JJ01.3>.
- [3677] S. Nunes et al., *Deep-learning classification and parameter inference of rotational core-collapse supernovae*, *Phys. Rev. D* **110** (2024) 064037 [[arXiv:2403.04938](#)] [[INSPIRE](#)].
- [3678] E. Cuoco et al., *Enhancing Gravitational-Wave Science with Machine Learning*, *Mach. Learn. Sci. Tech.* **2** (2021) 011002 [[arXiv:2005.03745](#)] [[INSPIRE](#)].
- [3679] I.S. Heng, *Rotating stellar core-collapse waveform decomposition: A principal component analysis approach*, *Class. Quant. Grav.* **26** (2009) 105005 [[arXiv:0810.5707](#)] [[INSPIRE](#)].
- [3680] C. Rover et al., *Bayesian reconstruction of gravitational wave burst signals from simulations of rotating stellar core collapse and bounce*, *Phys. Rev. D* **80** (2009) 102004 [[arXiv:0909.1093](#)] [[INSPIRE](#)].
- [3681] J. Powell, S.E. Gossan, J. Logue and I.S. Heng, *Inferring the core-collapse supernova explosion mechanism with gravitational waves*, *Phys. Rev. D* **94** (2016) 123012 [[arXiv:1610.05573](#)] [[INSPIRE](#)].
- [3682] S. Suvorova, J. Powell and A. Melatos, *Reconstructing Gravitational Wave Core-Collapse Supernova Signals with Dynamic Time Warping*, *Phys. Rev. D* **99** (2019) 123012 [[arXiv:1901.02535](#)] [[INSPIRE](#)].
- [3683] N. Raza, J. McIver, G. Dálya and P. Raffai, *Prospects for reconstructing the gravitational-wave signals from core-collapse supernovae with Advanced LIGO-Virgo and the BayesWave algorithm*, *Phys. Rev. D* **106** (2022) 063014 [[arXiv:2203.08960](#)] [[INSPIRE](#)].
- [3684] Y. Yuan et al., *Waveform reconstruction of core-collapse supernova gravitational waves with ensemble empirical mode decomposition*, *Mon. Not. Roy. Astron. Soc.* **529** (2024) 3235 [[arXiv:2309.06011](#)] [[INSPIRE](#)].

- [3685] J. Logue et al., *Inferring Core-Collapse Supernova Physics with Gravitational Waves*, *Phys. Rev. D* **86** (2012) 044023 [[arXiv:1202.3256](#)] [[INSPIRE](#)].
- [3686] J. Powell, M. Szczepanczyk and I.S. Heng, *Inferring the core-collapse supernova explosion mechanism with three-dimensional gravitational-wave simulations*, *Phys. Rev. D* **96** (2017) 123013 [[arXiv:1709.00955](#)] [[INSPIRE](#)].
- [3687] A. Saiz-Pérez, A. Torres-Forné and J.A. Font, *Classification of core-collapse supernova explosions with learned dictionaries*, *Mon. Not. Roy. Astron. Soc.* **512** (2022) 3815 [[arXiv:2110.12941](#)] [[INSPIRE](#)].
- [3688] K. Hayama, T. Kuroda, K. Nakamura and S. Yamada, *Circular Polarizations of Gravitational Waves from Core-Collapse Supernovae: A Clear Indication of Rapid Rotation*, *Phys. Rev. Lett.* **116** (2016) 151102 [[arXiv:1606.01520](#)] [[INSPIRE](#)].
- [3689] M.L. Chan and K. Hayama, *Estimate of the detectability of the circular polarization signature of supernova gravitational waves using the Stokes parameters*, *Phys. Rev. D* **103** (2021) 103024 [[arXiv:2008.01984](#)] [[INSPIRE](#)].
- [3690] M.-A. Bizouard et al., *Inference of proton-neutron star properties from gravitational-wave data in core-collapse supernovae*, *Phys. Rev. D* **103** (2021) 063006 [[arXiv:2012.00846](#)] [[INSPIRE](#)].
- [3691] J. Powell and B. Müller, *Inferring astrophysical parameters of core-collapse supernovae from their gravitational-wave emission*, *Phys. Rev. D* **105** (2022) 063018 [[arXiv:2201.01397](#)] [[INSPIRE](#)].
- [3692] M. Takeda et al., *Application of the Hilbert-Huang transform for analyzing standing-accretion-shock-instability induced gravitational waves in a core-collapse supernova*, *Phys. Rev. D* **104** (2021) 084063 [[arXiv:2107.05213](#)] [[INSPIRE](#)].
- [3693] H. Kawahara et al., *A Linear and Quadratic Time-Frequency Analysis of Gravitational Waves from Core-collapse Supernovae*, *Astrophys. J.* **867** (2018) 126 [[arXiv:1810.00334](#)] [[INSPIRE](#)].
- [3694] F. Maione, R. De Pietri, A. Feo and F. Löffler, *Spectral analysis of gravitational waves from binary neutron star merger remnants*, *Phys. Rev. D* **96** (2017) 063011 [[arXiv:1707.03368](#)] [[INSPIRE](#)].
- [3695] W.J. Engels, R. Frey and C.D. Ott, *Multivariate Regression Analysis of Gravitational Waves from Rotating Core Collapse*, *Phys. Rev. D* **90** (2014) 124026 [[arXiv:1406.1164](#)] [[INSPIRE](#)].
- [3696] K. Hayama et al., *Determination of the angular momentum distribution of supernovae from gravitational wave observations*, *Class. Quant. Grav.* **25** (2008) 184022 [[arXiv:0807.4514](#)] [[INSPIRE](#)].
- [3697] C. Afle and D.A. Brown, *Inferring physical properties of stellar collapse by third-generation gravitational-wave detectors*, *Phys. Rev. D* **103** (2021) 023005 [[arXiv:2010.00719](#)] [[INSPIRE](#)].
- [3698] C. Pastor-Marcos et al., *Bayesian inference from gravitational waves in fast-rotating, core-collapse supernovae*, *Phys. Rev. D* **109** (2024) 063028 [[arXiv:2308.03456](#)] [[INSPIRE](#)].
- [3699] L.O. Villegas et al., *Parameter estimation from the core-bounce phase of rotating core collapse supernovae in real interferometer noise*, *Class. Quant. Grav.* **42** (2025) 115001 [[arXiv:2304.01267](#)] [[INSPIRE](#)].
- [3700] M.C. Edwards, *Classifying the Equation of State from Rotating Core Collapse Gravitational Waves with Deep Learning*, *Phys. Rev. D* **103** (2021) 024025 [[arXiv:2009.07367](#)] [[INSPIRE](#)].

- [3701] A. Mitra, B. Shukirgaliyev, Y.S. Abylkairov and E. Abdikamalov, *Exploring supernova gravitational waves with machine learning*, *Mon. Not. Roy. Astron. Soc.* **520** (2023) 2473 [[arXiv:2209.14542](#)] [[INSPIRE](#)].
- [3702] O. Gottlieb, A. Levinson and Y. Levin, *In LIGO's Sight? Vigorous Coherent Gravitational Waves from Cooled Collapsar Disks*, *Astrophys. J. Lett.* **972** (2024) L4 [[arXiv:2406.19452](#)] [[INSPIRE](#)].
- [3703] O.H. Wilson and W.C.G. Ho, *Gravitational waves from glitch-induced f-mode oscillations in quark and neutron stars*, *Phys. Rev. D* **109** (2024) 083006 [[arXiv:2403.09489](#)] [[INSPIRE](#)].
- [3704] LIGO SCIENTIFIC et al. collaborations, *Search for Gravitational-wave Transients Associated with Magnetar Bursts in Advanced LIGO and Advanced Virgo Data from the Third Observing Run*, *Astrophys. J.* **966** (2024) 137 [[arXiv:2210.10931](#)] [[INSPIRE](#)].
- [3705] P. Kalmus, K.C. Cannon, S. Marka and B.J. Owen, *Stacking Gravitational Wave Signals from Soft Gamma Repeater Bursts*, *Phys. Rev. D* **80** (2009) 042001 [[arXiv:0904.4906](#)] [[INSPIRE](#)].
- [3706] F. Dubath et al., *Experimental signatures of gravitational wave bursters*, *Phys. Rev. D* **71** (2005) 124003 [[gr-qc/0410057](#)] [[INSPIRE](#)].
- [3707] A. Macquet et al., *Search for Long-duration Gravitational-wave Signals Associated with Magnetar Giant Flares*, *Astrophys. J.* **918** (2021) 80 [[arXiv:2105.02086](#)] [[INSPIRE](#)].
- [3708] P. Leaci and R. Prix, *Directed searches for continuous gravitational waves from binary systems: parameter-space metrics and optimal Scorpius X-1 sensitivity*, *Phys. Rev. D* **91** (2015) 102003 [[arXiv:1502.00914](#)] [[INSPIRE](#)].
- [3709] P. Leaci et al., *Novel directed search strategy to detect continuous gravitational waves from neutron stars in low- and high-eccentricity binary systems*, *Phys. Rev. D* **95** (2017) 122001 [[arXiv:1607.08751](#)] [[INSPIRE](#)].
- [3710] LIGO SCIENTIFIC et al. collaborations, *Searches for Continuous Gravitational Waves from Young Supernova Remnants in the Early Third Observing Run of Advanced LIGO and Virgo*, *Astrophys. J.* **921** (2021) 80 [[arXiv:2105.11641](#)] [[INSPIRE](#)].
- [3711] KAGRA et al. collaborations, *Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data*, *Phys. Rev. D* **106** (2022) 042003 [[arXiv:2204.04523](#)] [[INSPIRE](#)].
- [3712] J.T. Whelan et al., *Search for Gravitational Waves from Scorpius X-1 in LIGO O3 Data with Corrected Orbital Ephemeris*, *Astrophys. J.* **949** (2023) 117 [[arXiv:2302.10338](#)] [[INSPIRE](#)].
- [3713] KAGRA et al. collaborations, *All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data*, *Phys. Rev. D* **106** (2022) 102008 [[arXiv:2201.00697](#)] [[INSPIRE](#)].
- [3714] K. Kashiyama and K. Ioka, *Magnetar Asteroseismology with Long-Term Gravitational Waves*, *Phys. Rev. D* **83** (2011) 081302 [[arXiv:1102.4830](#)] [[INSPIRE](#)].
- [3715] S. Dall'Osso, S.N. Shore and L. Stella, *Early evolution of newly born magnetars with a strong toroidal field*, *Mon. Not. Roy. Astron. Soc.* **398** (2009) 1869 [[arXiv:0811.4311](#)] [[INSPIRE](#)].
- [3716] P.M. Woods and C. Thompson, *Soft gamma repeaters and anomalous x-ray pulsars: Magnetar candidates*, [astro-ph/0406133](#) [[INSPIRE](#)].
- [3717] P. Beniamini, K. Hotokezaka, A. van der Horst and C. Kouveliotou, *Formation Rates and Evolution Histories of Magnetars*, *Mon. Not. Roy. Astron. Soc.* **487** (2019) 1426 [[arXiv:1903.06718](#)] [[INSPIRE](#)].

- [3718] C.M. Will, *The Confrontation between General Relativity and Experiment*, *Living Rev. Rel.* **17** (2014) 4 [[arXiv:1403.7377](#)] [[INSPIRE](#)].
- [3719] J. Soldateschi and N. Bucciantini, *Detectability of Continuous Gravitational Waves from Magnetically Deformed Neutron Stars*, *Galaxies* **9** (2021) 101 [[arXiv:2110.06039](#)] [[INSPIRE](#)].
- [3720] L. Sun et al., *Hidden Markov model tracking of continuous gravitational waves from young supernova remnants*, *Phys. Rev. D* **97** (2018) 043013 [[arXiv:1710.00460](#)] [[INSPIRE](#)].
- [3721] A. Mukherjee, C. Messenger and K. Riles, *Accretion-induced spin-wandering effects on the neutron star in Scorpius X-1: Implications for continuous gravitational wave searches*, *Phys. Rev. D* **97** (2018) 043016 [[arXiv:1710.06185](#)] [[INSPIRE](#)].
- [3722] P. Astone et al., *Method for all-sky searches of continuous gravitational wave signals using the frequency-Hough transform*, *Phys. Rev. D* **90** (2014) 042002 [[arXiv:1407.8333](#)] [[INSPIRE](#)].
- [3723] J. Moragues, L.M. Modafferi, R. Tenorio and D. Keitel, *Prospects for detecting transient quasi-monochromatic gravitational waves from glitching pulsars with current and future detectors*, *Mon. Not. Roy. Astron. Soc.* **519** (2023) 5161 [[arXiv:2210.09907](#)] [[INSPIRE](#)].
- [3724] A. Miller et al., *Method to search for long duration gravitational wave transients from isolated neutron stars using the generalized frequency-Hough transform*, *Phys. Rev. D* **98** (2018) 102004 [[arXiv:1810.09784](#)] [[INSPIRE](#)].
- [3725] A.L. Miller et al., *How effective is machine learning to detect long transient gravitational waves from neutron stars in a real search?*, *Phys. Rev. D* **100** (2019) 062005 [[arXiv:1909.02262](#)] [[INSPIRE](#)].
- [3726] L.M. Modafferi, R. Tenorio and D. Keitel, *Convolutional neural network search for long-duration transient gravitational waves from glitching pulsars*, *Phys. Rev. D* **108** (2023) 023005 [[arXiv:2303.16720](#)] [[INSPIRE](#)].
- [3727] F. Attadio et al., *Neural network method to search for long transient gravitational waves*, *Phys. Rev. D* **110** (2024) 103047 [[arXiv:2407.02391](#)] [[INSPIRE](#)].
- [3728] L. Pierini, *Improving agnostic searches of Gravitational Waves from Neutron Star instabilities using image filtering*, *IAU Symp.* **363** (2020) 352 [[arXiv:2209.07276](#)] [[INSPIRE](#)].
- [3729] S.S. Menon, D. Guetta and S. Dall’Osso, *UV Signatures of Magnetar Formation and Their Crucial Role for GW Detection*, *Astrophys. J.* **955** (2023) 12 [[arXiv:2305.07761](#)] [[INSPIRE](#)].
- [3730] C.L. Fryer et al., *Multimessenger Diagnostics of the Engine behind Core-collapse Supernovae*, *Astrophys. J.* **956** (2023) 19 [[arXiv:2305.06134](#)] [[INSPIRE](#)].
- [3731] KAMIOKANDE-II collaboration, *Observation of a Neutrino Burst from the Supernova SN 1987a*, *Phys. Rev. Lett.* **58** (1987) 1490 [[INSPIRE](#)].
- [3732] P. Bouchet et al., *SN 1987A: Observations at Later Phases*, in T.S. Kuhn ed., *IAU Colloq. 145: Supernovae and Supernova Remnants*, Cambridge University Press (1996), p. 201–210 [[DOI:10.1017/cbo9780511564734.024](#)].
- [3733] J.P. Gardner et al., *The James Webb Space Telescope*, *Space Sci. Rev.* **123** (2006) 485 [[astro-ph/0606175](#)] [[INSPIRE](#)].
- [3734] G. Pagliaroli, F. Vissani, E. Coccia and W. Fulgione, *Neutrinos from Supernovae as a Trigger for Gravitational Wave Search*, *Phys. Rev. Lett.* **103** (2009) 031102 [[arXiv:0903.1191](#)] [[INSPIRE](#)].
- [3735] R. Tomas et al., *Supernova pointing with low-energy and high-energy neutrino detectors*, *Phys. Rev. D* **68** (2003) 093013 [[hep-ph/0307050](#)] [[INSPIRE](#)].

- [3736] J.F. Beacom and P. Vogel, *Can a supernova be located by its neutrinos?*, *Phys. Rev. D* **60** (1999) 033007 [[astro-ph/9811350](#)] [[INSPIRE](#)].
- [3737] T. Lund et al., *Fast time variations of supernova neutrino fluxes and their detectability*, *Phys. Rev. D* **82** (2010) 063007 [[arXiv:1006.1889](#)] [[INSPIRE](#)].
- [3738] S. Horiuchi, K. Nakamura, T. Takiwaki and K. Kotake, *Estimating the core compactness of massive stars with Galactic supernova neutrinos*, *J. Phys. G* **44** (2017) 114001 [[arXiv:1708.08513](#)] [[INSPIRE](#)].
- [3739] K. Nakazato and H. Suzuki, *A New Approach to Mass and Radius of Neutron Stars with Supernova Neutrinos*, *Astrophys. J.* **891** (2020) 156 [[arXiv:2002.03300](#)] [[INSPIRE](#)].
- [3740] HYPER-KAMIOKANDE collaboration, *Hyper-Kamiokande Design Report*, [arXiv:1805.04163](#) [[INSPIRE](#)].
- [3741] DUNE collaboration, *Supernova neutrino burst detection with the Deep Underground Neutrino Experiment*, *Eur. Phys. J. C* **81** (2021) 423 [[arXiv:2008.06647](#)] [[INSPIRE](#)].
- [3742] M. Mukhopadhyay, C. Lunardini, F.X. Timmes and K. Zuber, *Presupernova neutrinos: directional sensitivity and prospects for progenitor identification*, *Astrophys. J.* **899** (2020) 153 [[arXiv:2004.02045](#)] [[INSPIRE](#)].
- [3743] C. Kato, K. Ishidoshiro and T. Yoshida, *Theoretical prediction of presupernova neutrinos and their detection*, *Ann. Rev. Nucl. Part. Sci.* **70** (2020) 121 [[arXiv:2006.02519](#)] [[INSPIRE](#)].
- [3744] JUNO collaboration, *Real-time monitoring for the next core-collapse supernova in JUNO*, *JCAP* **01** (2024) 057 [[arXiv:2309.07109](#)] [[INSPIRE](#)].
- [3745] ICECUBE-GEN2 collaboration, *IceCube-Gen2: the window to the extreme Universe*, *J. Phys. G* **48** (2021) 060501 [[arXiv:2008.04323](#)] [[INSPIRE](#)].
- [3746] KM3NET collaboration, *Implementation and first results of the KM3NeT real-time core-collapse supernova neutrino search*, *Eur. Phys. J. C* **82** (2022) 317 [[arXiv:2109.05890](#)] [[INSPIRE](#)].
- [3747] A. Coleiro et al., *Combining neutrino experimental light-curves for pointing to the next galactic core-collapse supernova*, *Eur. Phys. J. C* **80** (2020) 856 [[arXiv:2003.04864](#)] [[INSPIRE](#)].
- [3748] T. Piran, E. Nakar, P. Mazzali and E. Pian, *Relativistic Jets in Core Collapse Supernovae*, *Astrophys. J. Lett.* **871** (2019) L25 [[arXiv:1704.08298](#)] [[INSPIRE](#)].
- [3749] L. Izzo et al., *Signatures of a jet cocoon in early spectra of a supernova associated with a  $\gamma$ -ray burst*, *Nature* **565** (2019) 324 [[arXiv:1901.05500](#)] [[INSPIRE](#)].
- [3750] D. Guetta, A. Langella, S. Gagliardini and M. Della Valle, *Low- and High-energy Neutrinos from SN 2023ixf in M101*, *Astrophys. J. Lett.* **955** (2023) L9 [[arXiv:2306.14717](#)] [[INSPIRE](#)].
- [3751] K. Murase, T.A. Thompson, B.C. Lacki and J.F. Beacom, *New Class of High-Energy Transients from Crashes of Supernova Ejecta with Massive Circumstellar Material Shells*, *Phys. Rev. D* **84** (2011) 043003 [[arXiv:1012.2834](#)] [[INSPIRE](#)].
- [3752] A. Kheirandish and K. Murase, *Detecting High-energy Neutrino Minibursts from Local Supernovae with Multiple Neutrino Observatories*, *Astrophys. J. Lett.* **956** (2023) L8 [[arXiv:2204.08518](#)] [[INSPIRE](#)].
- [3753] D. Tsuna, Y. Takei and T. Shigeyama, *Precursors of Supernovae from Mass Eruption: Prospects for Early Warning of Nearby Core-collapse Supernovae*, *Astrophys. J.* **945** (2023) 104 [[arXiv:2208.08256](#)] [[INSPIRE](#)].

- [3754] S.E. Gossan, E.D. Hall and S.M. Nissanke, *Optimizing the Third Generation of Gravitational-wave Observatories for Galactic Astrophysics*, *Astrophys. J.* **926** (2022) 231 [[arXiv:2110.15322](#)] [[INSPIRE](#)].
- [3755] B.J. Shappee et al., *The Man Behind the Curtain: X-rays Drive the UV through NIR Variability in the 2013 AGN Outburst in NGC 2617*, *Astrophys. J.* **788** (2014) 48 [[arXiv:1310.2241](#)] [[INSPIRE](#)].
- [3756] N. Kaiser et al., *Pan-STARRS: A Large Synoptic Survey Telescope Array*, *Proc. SPIE Int. Soc. Opt. Eng.* **4836** (2002) 154 [[INSPIRE](#)].
- [3757] N.M. Law et al., *The Palomar Transient Factory: System Overview, Performance and First Results*, *Publ. Astron. Soc. Pac.* **121** (2009) 1395 [[arXiv:0906.5350](#)] [[INSPIRE](#)].
- [3758] F.J. Masci et al., *The Zwicky Transient Facility: Data Processing, Products, and Archive*, *Publ. Astron. Soc. Pac.* **131** (2018) 018003 [[INSPIRE](#)].
- [3759] R. Ragazzoni et al., *Current status of MezzoCielo: a design aiming to a large aperture, extremely wide field of view telescope*, *Proc. SPIE* **12182** (2022) 121820H.
- [3760] S. Ben-Ami et al., *The scientific payload of the Ultraviolet Transient Astronomy Satellite (ULTRASAT)*, *Proc. SPIE* **12181** (2022) 1218105 [[arXiv:2208.00159](#)].
- [3761] THESEUS collaboration, *The THESEUS space mission concept: science case, design and expected performances*, *Adv. Space Res.* **62** (2018) 191 [[arXiv:1710.04638](#)] [[INSPIRE](#)].
- [3762] S.J. Smartt et al., *PESSTO: survey description and products from the first data release by the Public ESO Spectroscopic Survey of Transient Objects*, *Astron. Astrophys.* **579** (2015) A40 [[arXiv:1411.0299](#)] [[INSPIRE](#)].
- [3763] P. Schipani et al., *Progress on the SOXS transients chaser for the ESO-NTT*, *Proc. SPIE* **12184** (2022) 1218400 [[arXiv:2209.07192](#)].
- [3764] R. Gilmozzi and J. Spyromilio, *The European Extremely Large Telescope (E-ELT)*, *The Messenger* **127** (2007) 11.
- [3765] M. Johns et al., *Giant Magellan Telescope: overview*, *Proc. SPIE* **8444** (2012) 84441H [[DOI:10.1117/12.926716](#)].
- [3766] G.H. Sanders, *The Thirty Meter Telescope (TMT): An International Observatory*, *J. Astrophys. Astron.* **34** (2013) 81.
- [3767] J.M. Apellaniz et al., *The Galactic O-Star Spectroscopic Survey (GOSSS)*, [[arXiv:1010.5680](#)] [[INSPIRE](#)].
- [3768] P. Marchant and J. Bodensteiner, *The Evolution of Massive Binary Stars*, *Ann. Rev. Astron. Astrophys.* **62** (2024) 21 [[arXiv:2311.01865](#)] [[INSPIRE](#)].
- [3769] O.H. Ramírez-Agudelo et al., *The VLT-FLAMES Tarantula Survey XII. Rotational velocities of the single O-type stars*, *Astron. Astrophys.* **560** (2013) A29 [[arXiv:1309.2929](#)] [[INSPIRE](#)].
- [3770] A. Schootemeijer et al., *A census of OBe stars in nearby metal-poor dwarf galaxies reveals a high fraction of extreme rotators*, *Astron. Astrophys.* **667** (2022) A100 [[arXiv:2209.04943](#)].
- [3771] W.L.F. Marcolino et al., *Analysis of Galactic late-type O dwarfs: more constraints on the weak wind problem*, *Astron. Astrophys.* **498** (2009) 837 [[arXiv:0902.1833](#)] [[INSPIRE](#)].
- [3772] V. Ramachandran et al., *Testing massive star evolution, star formation history, and feedback at low metallicity: Spectroscopic analysis of OB stars in the SMC Wing*, *Astron. Astrophys.* **625** (2019) A104 [[arXiv:1903.01762](#)].

- [3773] N. Smith and S.P. Owocki, *On the role of continuum-driven eruptions in the evolution of very massive stars and Population III stars*, *Astrophys. J. Lett.* **645** (2006) L45 [[astro-ph/0606174](#)] [[INSPIRE](#)].
- [3774] C. Weidner, P. Kroupa and J. Pflamm-Altenburg, *Top-heavy integrated galactic stellar initial mass functions (IGIMFs) in starbursts*, *Mon. Not. Roy. Astron. Soc.* **412** (2011) 979 [[arXiv:1011.3814](#)] [[INSPIRE](#)].
- [3775] F.R.N. Schneider et al., *An excess of massive stars in the local 30 Doradus starburst*, *Science* **359** (2018) 69 [[arXiv:1801.03107](#)].
- [3776] P. Podsiadlowski and P.C. Joss, *An alternative binary model for SN1987A*, *Nature* **338** (1989) 401.
- [3777] A. Menon and A. Heger, *The quest for blue supergiants: binary merger models for the evolution of the progenitor of SN 1987A*, *Mon. Not. Roy. Astron. Soc.* **469** (2017) 4649 [[arXiv:1703.04918](#)] [[INSPIRE](#)].
- [3778] J.R. Maund et al., *The massive binary companion star to the progenitor of supernova 1993J*, *Nature* **427** (2004) 129 [[astro-ph/0401090](#)] [[INSPIRE](#)].
- [3779] E.E. Flanagan and S.A. Hughes, *Measuring gravitational waves from binary black hole coalescences: 2. The Waves' information and its extraction, with and without templates*, *Phys. Rev. D* **57** (1998) 4566 [[gr-qc/9710129](#)] [[INSPIRE](#)].
- [3780] C. Cutler and M. Vallisneri, *LISA detections of massive black hole inspirals: Parameter extraction errors due to inaccurate template waveforms*, *Phys. Rev. D* **76** (2007) 104018 [[arXiv:0707.2982](#)] [[INSPIRE](#)].
- [3781] L. Lindblom, B.J. Owen and D.A. Brown, *Model Waveform Accuracy Standards for Gravitational Wave Data Analysis*, *Phys. Rev. D* **78** (2008) 124020 [[arXiv:0809.3844](#)] [[INSPIRE](#)].
- [3782] L. Lindblom, *Use and Abuse of the Model Waveform Accuracy Standards*, *Phys. Rev. D* **80** (2009) 064019 [[arXiv:0907.0457](#)] [[INSPIRE](#)].
- [3783] T. Damour, A. Nagar and M. Trias, *Accuracy and effectualness of closed-form, frequency-domain waveforms for non-spinning black hole binaries*, *Phys. Rev. D* **83** (2011) 024006 [[arXiv:1009.5998](#)] [[INSPIRE](#)].
- [3784] K. Chatziioannou, A. Klein, N. Yunes and N. Cornish, *Constructing Gravitational Waves from Generic Spin-Precessing Compact Binary Inspirals*, *Phys. Rev. D* **95** (2017) 104004 [[arXiv:1703.03967](#)] [[INSPIRE](#)].
- [3785] A. Toubiana and J.R. Gair, *Indistinguishability criterion and estimating the presence of biases*, [arXiv:2401.06845](#) [[INSPIRE](#)].
- [3786] Q. Hu and J. Veitch, *Assessing the model waveform accuracy of gravitational waves*, *Phys. Rev. D* **106** (2022) 044042 [[arXiv:2205.08448](#)] [[INSPIRE](#)].
- [3787] M. Pürrer and C.-J. Haster, *Gravitational waveform accuracy requirements for future ground-based detectors*, *Phys. Rev. Res.* **2** (2020) 023151 [[arXiv:1912.10055](#)] [[INSPIRE](#)].
- [3788] E. Berti, A. Buonanno and C.M. Will, *Estimating spinning binary parameters and testing alternative theories of gravity with LISA*, *Phys. Rev. D* **71** (2005) 084025 [[gr-qc/0411129](#)] [[INSPIRE](#)].

- [3789] V. Kapil, L. Reali, R. Cotesta and E. Berti, *Systematic bias from waveform modeling for binary black hole populations in next-generation gravitational wave detectors*, *Phys. Rev. D* **109** (2024) 104043 [[arXiv:2404.00090](#)] [[INSPIRE](#)].
- [3790] C.B. Owen et al., *Waveform accuracy and systematic uncertainties in current gravitational wave observations*, *Phys. Rev. D* **108** (2023) 044018 [[arXiv:2301.11941](#)] [[INSPIRE](#)].
- [3791] LIGO SCIENTIFIC and VIRGO collaborations, *GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs*, *Phys. Rev. X* **9** (2019) 031040 [[arXiv:1811.12907](#)] [[INSPIRE](#)].
- [3792] LIGO SCIENTIFIC and VIRGO collaborations, *Effects of waveform model systematics on the interpretation of GW150914*, *Class. Quant. Grav.* **34** (2017) 104002 [[arXiv:1611.07531](#)] [[INSPIRE](#)].
- [3793] LIGO SCIENTIFIC and VIRGO collaborations, *GW190412: Observation of a Binary-Black-Hole Coalescence with Asymmetric Masses*, *Phys. Rev. D* **102** (2020) 043015 [[arXiv:2004.08342](#)] [[INSPIRE](#)].
- [3794] D. Ferguson, K. Jani, P. Laguna and D. Shoemaker, *Assessing the readiness of numerical relativity for LISA and 3G detectors*, *Phys. Rev. D* **104** (2021) 044037 [[arXiv:2006.04272](#)] [[INSPIRE](#)].
- [3795] M. van de Meent and H.P. Pfeiffer, *Intermediate mass-ratio black hole binaries: Applicability of small mass-ratio perturbation theory*, *Phys. Rev. Lett.* **125** (2020) 181101 [[arXiv:2006.12036](#)] [[INSPIRE](#)].
- [3796] B. Wardell et al., *Gravitational Waveforms for Compact Binaries from Second-Order Self-Force Theory*, *Phys. Rev. Lett.* **130** (2023) 241402 [[arXiv:2112.12265](#)] [[INSPIRE](#)].
- [3797] O. Burke et al., *Assessing the importance of first postadiabatic terms for small-mass-ratio binaries*, *Phys. Rev. D* **109** (2024) 124048 [[arXiv:2310.08927](#)] [[INSPIRE](#)].
- [3798] A. Antonelli, O. Burke and J.R. Gair, *Noisy neighbours: inference biases from overlapping gravitational-wave signals*, *Mon. Not. Roy. Astron. Soc.* **507** (2021) 5069 [[arXiv:2104.01897](#)] [[INSPIRE](#)].
- [3799] N. Kunert et al., *Quantifying modeling uncertainties when combining multiple gravitational-wave detections from binary neutron star sources*, *Phys. Rev. D* **105** (2022) L061301 [[arXiv:2110.11835](#)] [[INSPIRE](#)].
- [3800] N. Kunert, J. Gair, P.T.H. Pang and T. Dietrich, *Impact of gravitational waveform model systematics on the measurement of the Hubble constant*, *Phys. Rev. D* **110** (2024) 043520 [[arXiv:2405.18158](#)] [[INSPIRE](#)].
- [3801] C.J. Moore, E. Finch, R. Buscicchio and D. Gerosa, *Testing general relativity with gravitational-wave catalogs: The insidious nature of waveform systematics*, *iScience* **24** (2021) 102577 [[arXiv:2103.16486](#)] [[INSPIRE](#)].
- [3802] C.J. Moore and J.R. Gair, *Novel Method for Incorporating Model Uncertainties into Gravitational Wave Parameter Estimates*, *Phys. Rev. Lett.* **113** (2014) 251101 [[arXiv:1412.3657](#)] [[INSPIRE](#)].
- [3803] J.R. Gair and C.J. Moore, *Quantifying and mitigating bias in inference on gravitational wave source populations*, *Phys. Rev. D* **91** (2015) 124062 [[arXiv:1504.02767](#)] [[INSPIRE](#)].
- [3804] C.J. Moore, C.P.L. Berry, A.J.K. Chua and J.R. Gair, *Improving gravitational-wave parameter estimation using Gaussian process regression*, *Phys. Rev. D* **93** (2016) 064001 [[arXiv:1509.04066](#)] [[INSPIRE](#)].

- [3805] Z. Doctor, B. Farr, D.E. Holz and M. Pürrer, *Statistical Gravitational Waveform Models: What to Simulate Next?*, *Phys. Rev. D* **96** (2017) 123011 [[arXiv:1706.05408](#)] [[INSPIRE](#)].
- [3806] D. Williams et al., *Precessing numerical relativity waveform surrogate model for binary black holes: A Gaussian process regression approach*, *Phys. Rev. D* **101** (2020) 063011 [[arXiv:1903.09204](#)] [[INSPIRE](#)].
- [3807] T. Andrade, R. Gamba and J. Trenado, *Actively learning numerical relativity*, *Phys. Rev. D* **110** (2024) 024080 [[arXiv:2311.11311](#)] [[INSPIRE](#)].
- [3808] S. Khan, *Probabilistic model for the gravitational wave signal from merging black holes*, *Phys. Rev. D* **109** (2024) 104045 [[arXiv:2403.11534](#)] [[INSPIRE](#)].
- [3809] J.S. Read, *Waveform uncertainty quantification and interpretation for gravitational-wave astronomy*, *Class. Quant. Grav.* **40** (2023) 135002 [[arXiv:2301.06630](#)] [[INSPIRE](#)].
- [3810] L. Pompili, A. Buonanno and M. Pürrer, *Accounting for numerical-relativity calibration uncertainty in gravitational-wave modeling and inference*, *Phys. Rev. D* **112** (2025) 044062 [[arXiv:2410.16859](#)] [[INSPIRE](#)].
- [3811] M. Shibata and K. Uryu, *Simulation of merging binary neutron stars in full general relativity: Gamma = two case*, *Phys. Rev. D* **61** (2000) 064001 [[gr-qc/9911058](#)] [[INSPIRE](#)].
- [3812] F. Pretorius, *Numerical relativity using a generalized harmonic decomposition*, *Class. Quant. Grav.* **22** (2005) 425 [[gr-qc/0407110](#)] [[INSPIRE](#)].
- [3813] M. Campanelli, C.O. Lousto, P. Marronetti and Y. Zlochower, *Accurate evolutions of orbiting black-hole binaries without excision*, *Phys. Rev. Lett.* **96** (2006) 111101 [[gr-qc/0511048](#)] [[INSPIRE](#)].
- [3814] J.G. Baker et al., *Gravitational wave extraction from an inspiraling configuration of merging black holes*, *Phys. Rev. Lett.* **96** (2006) 111102 [[gr-qc/0511103](#)] [[INSPIRE](#)].
- [3815] H. Friedrich, *On the hyperbolicity of Einstein's and other gauge field equations*, *Commun. Math. Phys.* **100** (1985) 525 [[INSPIRE](#)].
- [3816] D. Garfinkle, *Harmonic coordinate method for simulating generic singularities*, *Phys. Rev. D* **65** (2002) 044029 [[gr-qc/0110013](#)] [[INSPIRE](#)].
- [3817] L. Lindblom et al., *A new generalized harmonic evolution system*, *Class. Quant. Grav.* **23** (2006) S447 [[gr-qc/0512093](#)] [[INSPIRE](#)].
- [3818] T.W. Baumgarte and S.L. Shapiro, *On the numerical integration of Einstein's field equations*, *Phys. Rev. D* **59** (1998) 024007 [[gr-qc/9810065](#)] [[INSPIRE](#)].
- [3819] M. Shibata and T. Nakamura, *Evolution of three-dimensional gravitational waves: Harmonic slicing case*, *Phys. Rev. D* **52** (1995) 5428 [[INSPIRE](#)].
- [3820] S. Bernuzzi and D. Hilditch, *Constraint violation in free evolution schemes: Comparing BSSNOK with a conformal decomposition of  $Z_4$* , *Phys. Rev. D* **81** (2010) 084003 [[arXiv:0912.2920](#)] [[INSPIRE](#)].
- [3821] D. Hilditch et al., *Compact binary evolutions with the  $Z_4c$  formulation*, *Phys. Rev. D* **88** (2013) 084057 [[arXiv:1212.2901](#)] [[INSPIRE](#)].
- [3822] D. Alic et al., *Conformal and covariant formulation of the  $Z_4$  system with constraint-violation damping*, *Phys. Rev. D* **85** (2012) 064040 [[arXiv:1106.2254](#)] [[INSPIRE](#)].
- [3823] D. Alic, W. Kastaun and L. Rezzolla, *Constraint damping of the conformal and covariant formulation of the  $Z_4$  system in simulations of binary neutron stars*, *Phys. Rev. D* **88** (2013) 064049 [[arXiv:1307.7391](#)] [[INSPIRE](#)].

- [3824] C. Bona, J. Masso, E. Seidel and J. Stela, *A new formalism for numerical relativity*, *Phys. Rev. Lett.* **75** (1995) 600 [[gr-qc/9412071](#)] [[INSPIRE](#)].
- [3825] M. Alcubierre, *Hyperbolic slicings of space-time: Singularity avoidance and gauge shocks*, *Class. Quant. Grav.* **20** (2003) 607 [[gr-qc/0210050](#)] [[INSPIRE](#)].
- [3826] J.R. van Meter, J.G. Baker, M. Koppitz and D.-I. Choi, *How to move a black hole without excision: Gauge conditions for the numerical evolution of a moving puncture*, *Phys. Rev. D* **73** (2006) 124011 [[gr-qc/0605030](#)] [[INSPIRE](#)].
- [3827] C. Gundlach and J.M. Martin-Garcia, *Well-posedness of formulations of the Einstein equations with dynamical lapse and shift conditions*, *Phys. Rev. D* **74** (2006) 024016 [[gr-qc/0604035](#)] [[INSPIRE](#)].
- [3828] B. Szilagyi, L. Lindblom and M.A. Scheel, *Simulations of Binary Black Hole Mergers Using Spectral Methods*, *Phys. Rev. D* **80** (2009) 124010 [[arXiv:0909.3557](#)] [[INSPIRE](#)].
- [3829] Y. Chen, N. Deppe, L.E. Kidder and S.A. Teukolsky, *Efficient simulations of high-spin black holes with a new gauge*, *Phys. Rev. D* **104** (2021) 084046 [[arXiv:2108.02331](#)] [[INSPIRE](#)].
- [3830] N. Rosato, J. Healy and C.O. Lousto, *Adapted gauge to small mass ratio binary black hole evolutions*, *Phys. Rev. D* **103** (2021) 104068 [[arXiv:2103.09326](#)] [[INSPIRE](#)].
- [3831] M.A. Scheel et al., *Solving Einstein's equations with dual coordinate frames*, *Phys. Rev. D* **74** (2006) 104006 [[gr-qc/0607056](#)] [[INSPIRE](#)].
- [3832] M. Hannam et al., *Geometry and regularity of moving punctures*, *Phys. Rev. Lett.* **99** (2007) 241102 [[gr-qc/0606099](#)] [[INSPIRE](#)].
- [3833] B. Bruegmann et al., *Calibration of Moving Puncture Simulations*, *Phys. Rev. D* **77** (2008) 024027 [[gr-qc/0610128](#)] [[INSPIRE](#)].
- [3834] Z.B. Etienne, *Improved moving-puncture techniques for compact binary simulations*, *Phys. Rev. D* **110** (2024) 064045 [[arXiv:2404.01137](#)] [[INSPIRE](#)].
- [3835] S. Husa et al., *Reducing phase error in long numerical binary black hole evolutions with sixth order finite differencing*, *Class. Quant. Grav.* **25** (2008) 105006 [[arXiv:0706.0740](#)] [[INSPIRE](#)].
- [3836] R. Haas et al., *The Einstein Toolkit*, DOI:10.5281/zenodo.7245853 (2022).
- [3837] M. Boyle et al., *The SXS Collaboration catalog of binary black hole simulations*, *Class. Quant. Grav.* **36** (2019) 195006 [[arXiv:1904.04831](#)] [[INSPIRE](#)].
- [3838] F. Banyuls et al., *Numerical 3+1 General Relativistic Hydrodynamics: A Local Characteristic Approach*, *Astrophys. J.* **476** (1997) 221 [[INSPIRE](#)].
- [3839] D. Radice, L. Rezzolla and F. Galeazzi, *High-Order Fully General-Relativistic Hydrodynamics: new Approaches and Tests*, *Class. Quant. Grav.* **31** (2014) 075012 [[arXiv:1312.5004](#)] [[INSPIRE](#)].
- [3840] E.R. Most, L.J. Papenfort and L. Rezzolla, *Beyond second-order convergence in simulations of magnetized binary neutron stars with realistic microphysics*, *Mon. Not. Roy. Astron. Soc.* **490** (2019) 3588 [[arXiv:1907.10328](#)] [[INSPIRE](#)].
- [3841] S. Rosswog and P. Diener, *SPHINCS\_BSSN: A general relativistic Smooth Particle Hydrodynamics code for dynamical spacetimes*, *Class. Quant. Grav.* **38** (2021) 115002 [[arXiv:2012.13954](#)] [[INSPIRE](#)].
- [3842] M.B. Deaton et al., *Black Hole-Neutron Star Mergers with a Hot Nuclear Equation of State: Outflow and Neutrino-Cooled Disk for a Low-Mass, High-Spin Case*, *Astrophys. J.* **776** (2013) 47 [[arXiv:1304.3384](#)] [[INSPIRE](#)].

- [3843] C. Palenzuela et al., *Effects of the microphysical Equation of State in the mergers of magnetized Neutron Stars With Neutrino Cooling*, *Phys. Rev. D* **92** (2015) 044045 [[arXiv:1505.01607](#)] [[INSPIRE](#)].
- [3844] J.S. Read, B.D. Lackey, B.J. Owen and J.L. Friedman, *Constraints on a phenomenologically parameterized neutron-star equation of state*, *Phys. Rev. D* **79** (2009) 124032 [[arXiv:0812.2163](#)] [[INSPIRE](#)].
- [3845] L. Lindblom, *Spectral Representations of Neutron-Star Equations of State*, *Phys. Rev. D* **82** (2010) 103011 [[arXiv:1009.0738](#)] [[INSPIRE](#)].
- [3846] F. Foucart et al., *Smooth Equations of State for High-Accuracy Simulations of Neutron Star Binaries*, *Phys. Rev. D* **100** (2019) 104048 [[arXiv:1908.05277](#)] [[INSPIRE](#)].
- [3847] M. Anderson et al., *Magnetized Neutron Star Mergers and Gravitational Wave Signals*, *Phys. Rev. Lett.* **100** (2008) 191101 [[arXiv:0801.4387](#)] [[INSPIRE](#)].
- [3848] S. Chawla et al., *Mergers of Magnetized Neutron Stars with Spinning Black Holes: Disruption, Accretion and Fallback*, *Phys. Rev. Lett.* **105** (2010) 111101 [[arXiv:1006.2839](#)] [[INSPIRE](#)].
- [3849] Z.B. Etienne, Y.T. Liu and S.L. Shapiro, *Relativistic magnetohydrodynamics in dynamical spacetimes: A new AMR implementation*, *Phys. Rev. D* **82** (2010) 084031 [[arXiv:1007.2848](#)] [[INSPIRE](#)].
- [3850] M. Shibata, S. Fujibayashi and Y. Sekiguchi, *Long-term evolution of a merger-remnant neutron star in general relativistic magnetohydrodynamics: Effect of magnetic winding*, *Phys. Rev. D* **103** (2021) 043022 [[arXiv:2102.01346](#)] [[INSPIRE](#)].
- [3851] M. Ponce, C. Palenzuela, L. Lehner and S.L. Liebling, *Interaction of misaligned magnetospheres in the coalescence of binary neutron stars*, *Phys. Rev. D* **90** (2014) 044007 [[arXiv:1404.0692](#)] [[INSPIRE](#)].
- [3852] M.H. Ruffert, H.T. Janka and G. Schaefer, *Coalescing neutron stars: A step towards physical models. 1: Hydrodynamic evolution and gravitational wave emission*, *Astron. Astrophys.* **311** (1996) 532 [[astro-ph/9509006](#)] [[INSPIRE](#)].
- [3853] K.S. Thorne, *Relativistic radiative transfer: moment formalisms*, *Mon. Not. Roy. Astron. Soc.* **194** (1981) 439 [[INSPIRE](#)].
- [3854] M. Shibata, K. Kiuchi, Y.-I. Sekiguchi and Y. Suwa, *Truncated Moment Formalism for Radiation Hydrodynamics in Numerical Relativity*, *Prog. Theor. Phys.* **125** (2011) 1255 [[arXiv:1104.3937](#)] [[INSPIRE](#)].
- [3855] F. Foucart et al., *Impact of an improved neutrino energy estimate on outflows in neutron star merger simulations*, *Phys. Rev. D* **94** (2016) 123016 [[arXiv:1607.07450](#)] [[INSPIRE](#)].
- [3856] D. Radice, S. Bernuzzi, A. Perego and R. Haas, *A new moment-based general-relativistic neutrino-radiation transport code: Methods and first applications to neutron star mergers*, *Mon. Not. Roy. Astron. Soc.* **512** (2022) 1499 [[arXiv:2111.14858](#)] [[INSPIRE](#)].
- [3857] F. Foucart et al., *Monte-Carlo neutrino transport in neutron star merger simulations*, *Astrophys. J. Lett.* **902** (2020) L27 [[arXiv:2008.08089](#)] [[INSPIRE](#)].
- [3858] J.M. Miller et al., *Full Transport Model of GW170817-Like Disk Produces a Blue Kilonova*, *Phys. Rev. D* **100** (2019) 023008 [[arXiv:1905.07477](#)] [[INSPIRE](#)].
- [3859] H. Witek, L. Gualtieri and P. Pani, *Towards numerical relativity in scalar Gauss-Bonnet gravity: 3 + 1 decomposition beyond the small-coupling limit*, *Phys. Rev. D* **101** (2020) 124055 [[arXiv:2004.00009](#)] [[INSPIRE](#)].

- [3860] H.P. Pfeiffer and J.W. York Jr., *Extrinsic curvature and the Einstein constraints*, *Phys. Rev. D* **67** (2003) 044022 [[gr-qc/0207095](#)] [[INSPIRE](#)].
- [3861] K. Taniguchi, T.W. Baumgarte, J.A. Faber and S.L. Shapiro, *Quasiequilibrium sequences of black-hole-neutron-star binaries in general relativity*, *Phys. Rev. D* **74** (2006) 041502 [[gr-qc/0609053](#)] [[INSPIRE](#)].
- [3862] H.P. Pfeiffer, L.E. Kidder, M.A. Scheel and S.A. Teukolsky, *A multidomain spectral method for solving elliptic equations*, *Comput. Phys. Commun.* **152** (2003) 253 [[gr-qc/0202096](#)] [[INSPIRE](#)].
- [3863] M. Ansorg, B. Bruegmann and W. Tichy, *A Single-domain spectral method for black hole puncture data*, *Phys. Rev. D* **70** (2004) 064011 [[gr-qc/0404056](#)] [[INSPIRE](#)].
- [3864] M. Ansorg, *A Double-domain spectral method for black hole excision data*, *Phys. Rev. D* **72** (2005) 024018 [[gr-qc/0505059](#)] [[INSPIRE](#)].
- [3865] E.ourgoulhon, P. Grandclement, J.-A. Marck, J. Novak and K. Taniguchi, *LORENE. Langage Objet pour la RElativité Numérique*, <http://www.lorene.obspm.fr>.
- [3866] P. Grandclement, *Accurate and realistic initial data for black hole-neutron star binaries*, *Phys. Rev. D* **74** (2006) 124002 [*Erratum ibid.* **75** (2007) 129903] [[gr-qc/0609044](#)] [[INSPIRE](#)].
- [3867] F. Foucart, L.E. Kidder, H.P. Pfeiffer and S.A. Teukolsky, *Initial data for black hole-neutron star binaries: A Flexible, high-accuracy spectral method*, *Phys. Rev. D* **77** (2008) 124051 [[arXiv:0804.3787](#)] [[INSPIRE](#)].
- [3868] P. Grandclement, *Kadath: A spectral solver for theoretical physics*, *J. Comput. Phys.* **229** (2010) 3334 [[arXiv:0909.1228](#)] [[INSPIRE](#)].
- [3869] S. Ossokine et al., *Improvements to the construction of binary black hole initial data*, *Class. Quant. Grav.* **32** (2015) 245010 [[arXiv:1506.01689](#)] [[INSPIRE](#)].
- [3870] N. Tacik et al., *Binary Neutron Stars with Arbitrary Spins in Numerical Relativity*, *Phys. Rev. D* **92** (2015) 124012 [*Erratum ibid.* **94** (2016) 049903] [[arXiv:1508.06986](#)] [[INSPIRE](#)].
- [3871] T. Dietrich et al., *Binary Neutron Stars with Generic Spin, Eccentricity, Mass ratio, and Compactness — Quasi-equilibrium Sequences and First Evolutions*, *Phys. Rev. D* **92** (2015) 124007 [[arXiv:1507.07100](#)] [[INSPIRE](#)].
- [3872] W. Tichy et al., *Constructing binary neutron star initial data with high spins, high compactnesses, and high mass ratios*, *Phys. Rev. D* **100** (2019) 124046 [[arXiv:1910.09690](#)] [[INSPIRE](#)].
- [3873] L.J. Papenfort et al., *New public code for initial data of unequal-mass, spinning compact-object binaries*, *Phys. Rev. D* **104** (2021) 024057 [[arXiv:2103.09911](#)] [[INSPIRE](#)].
- [3874] A. Rashti et al., *New pseudospectral code for the construction of initial data*, *Phys. Rev. D* **105** (2022) 104027 [[arXiv:2109.14511](#)] [[INSPIRE](#)].
- [3875] N.L. Vu et al., *A scalable elliptic solver with task-based parallelism for the SpECTRE numerical relativity code*, *Phys. Rev. D* **105** (2022) 084027 [[arXiv:2111.06767](#)] [[INSPIRE](#)].
- [3876] K. Uryu and A. Tsokaros, *A new code for equilibriums and quasiequilibrium initial data of compact objects*, *Phys. Rev. D* **85** (2012) 064014 [[arXiv:1108.3065](#)] [[INSPIRE](#)].
- [3877] A. Tsokaros, K. Uryū and L. Rezzolla, *New code for quasiequilibrium initial data of binary neutron stars: Corotating, irrotational, and slowly spinning systems*, *Phys. Rev. D* **91** (2015) 104030 [[arXiv:1502.05674](#)] [[INSPIRE](#)].

- [3878] K. Uryu et al., *New code for equilibriums and quasiequilibrium initial data of compact objects. IV. Rotating relativistic stars with mixed poloidal and toroidal magnetic fields*, *Phys. Rev. D* **100** (2019) 123019 [[arXiv:1906.10393](#)] [[INSPIRE](#)].
- [3879] T. Assumpcao, L.R. Werneck, T.P. Jacques and Z.B. Etienne, *Fast hyperbolic relaxation elliptic solver for numerical relativity: Conformally flat, binary puncture initial data*, *Phys. Rev. D* **105** (2022) 104037 [[arXiv:2111.02424](#)] [[INSPIRE](#)].
- [3880] G. Lovelace, *Reducing spurious gravitational radiation in binary-black-hole simulations by using conformally curved initial data*, *Class. Quant. Grav.* **26** (2009) 114002 [[arXiv:0812.3132](#)] [[INSPIRE](#)].
- [3881] V. Varma, M.A. Scheel and H.P. Pfeiffer, *Comparison of binary black hole initial data sets*, *Phys. Rev. D* **98** (2018) 104011 [[arXiv:1808.08228](#)] [[INSPIRE](#)].
- [3882] A.H. Mroue et al., *Catalog of 174 Binary Black Hole Simulations for Gravitational Wave Astronomy*, *Phys. Rev. Lett.* **111** (2013) 241104 [[arXiv:1304.6077](#)] [[INSPIRE](#)].
- [3883] K. Jani et al., *Georgia Tech Catalog of Gravitational Waveforms*, *Class. Quant. Grav.* **33** (2016) 204001 [[arXiv:1605.03204](#)] [[INSPIRE](#)].
- [3884] A. Ramos-Buades et al., *First survey of spinning eccentric black hole mergers: Numerical relativity simulations, hybrid waveforms, and parameter estimation*, *Phys. Rev. D* **101** (2020) 083015 [[arXiv:1909.11011](#)] [[INSPIRE](#)].
- [3885] G. Pratten et al., *Setting the cornerstone for a family of models for gravitational waves from compact binaries: The dominant harmonic for nonprecessing quasicircular black holes*, *Phys. Rev. D* **102** (2020) 064001 [[arXiv:2001.11412](#)] [[INSPIRE](#)].
- [3886] J. Healy and C.O. Lousto, *Fourth RIT binary black hole simulations catalog: Extension to eccentric orbits*, *Phys. Rev. D* **105** (2022) 124010 [[arXiv:2202.00018](#)] [[INSPIRE](#)].
- [3887] A.V. Joshi, S.G. Rosofsky, R. Haas and E.A. Huerta, *Numerical relativity higher order gravitational waveforms of eccentric, spinning, nonprecessing binary black hole mergers*, *Phys. Rev. D* **107** (2023) 064038 [[arXiv:2210.01852](#)] [[INSPIRE](#)].
- [3888] A. Ramos-Buades et al., *Eccentric binary black holes: Comparing numerical relativity and small mass-ratio perturbation theory*, *Phys. Rev. D* **106** (2022) 124040 [[arXiv:2209.03390](#)] [[INSPIRE](#)].
- [3889] V. Varma et al., *Surrogate model of hybridized numerical relativity binary black hole waveforms*, *Phys. Rev. D* **99** (2019) 064045 [[arXiv:1812.07865](#)] [[INSPIRE](#)].
- [3890] V. Varma et al., *Surrogate models for precessing binary black hole simulations with unequal masses*, *Phys. Rev. Research.* **1** (2019) 033015 [[arXiv:1905.09300](#)] [[INSPIRE](#)].
- [3891] J. Yoo et al., *Targeted large mass ratio numerical relativity surrogate waveform model for GW190814*, *Phys. Rev. D* **106** (2022) 044001 [[arXiv:2203.10109](#)] [[INSPIRE](#)].
- [3892] E. Hamilton et al., *Model of gravitational waves from precessing black-hole binaries through merger and ringdown*, *Phys. Rev. D* **104** (2021) 124027 [[arXiv:2107.08876](#)] [[INSPIRE](#)].
- [3893] M.A. Scheel et al., *Improved methods for simulating nearly extremal binary black holes*, *Class. Quant. Grav.* **32** (2015) 105009 [[arXiv:1412.1803](#)] [[INSPIRE](#)].
- [3894] Y. Zlochower, J. Healy, C.O. Lousto and I. Ruchlin, *Evolutions of Nearly Maximally Spinning Black Hole Binaries Using the Moving Puncture Approach*, *Phys. Rev. D* **96** (2017) 044002 [[arXiv:1706.01980](#)] [[INSPIRE](#)].

- [3895] M. Dhesi et al., *Worldtube excision method for intermediate-mass-ratio inspirals: Scalar-field toy model*, *Phys. Rev. D* **104** (2021) 124002 [[arXiv:2109.03531](#)] [[INSPIRE](#)].
- [3896] LISA CONSORTIUM WAVEFORM WORKING GROUP collaboration, *Waveform Modelling for the Laser Interferometer Space Antenna*, [arXiv:2311.01300](#) [[INSPIRE](#)].
- [3897] C.O. Lousto and J. Healy, *Exploring the Small Mass Ratio Binary Black Hole Merger via Zeno’s Dichotomy Approach*, *Phys. Rev. Lett.* **125** (2020) 191102 [[arXiv:2006.04818](#)] [[INSPIRE](#)].
- [3898] C.O. Lousto and J. Healy, *Study of the intermediate mass ratio black hole binary merger up to 1000:1 with numerical relativity*, *Class. Quant. Grav.* **40** (2023) 09LT01 [[arXiv:2203.08831](#)] [[INSPIRE](#)].
- [3899] N.A. Wittek et al., *Worldtube excision method for intermediate-mass-ratio inspirals: Scalar-field model in 3+1 dimensions*, *Phys. Rev. D* **108** (2023) 024041 [[arXiv:2304.05329](#)] [[INSPIRE](#)].
- [3900] N.A. Wittek, A. Pound, H.P. Pfeiffer and L. Barack, *Worldtube excision method for intermediate-mass-ratio inspirals: Self-consistent evolution in a scalar-charge model*, *Phys. Rev. D* **110** (2024) 084023 [[arXiv:2403.08864](#)] [[INSPIRE](#)].
- [3901] R. Gamba et al., *GW190521 as a dynamical capture of two nonspinning black holes*, *Nature Astron.* **7** (2023) 11 [[arXiv:2106.05575](#)] [[INSPIRE](#)].
- [3902] A. Bonino, P. Schmidt and G. Pratten, *Mapping eccentricity evolutions between numerical relativity and effective-one-body gravitational waveforms*, *Phys. Rev. D* **110** (2024) 104002 [[arXiv:2404.18875](#)] [[INSPIRE](#)].
- [3903] *SXS gravitational waveforms database*, <https://data.black-holes.org/waveforms/catalog.html>.
- [3904] V. Paschalidis, *General relativistic simulations of compact binary mergers as engines for short gamma-ray bursts*, *Class. Quant. Grav.* **34** (2017) 084002 [[arXiv:1611.01519](#)] [[INSPIRE](#)].
- [3905] M. Shibata and K. Hotokezaka, *Merger and Mass Ejection of Neutron-Star Binaries*, *Ann. Rev. Nucl. Part. Sci.* **69** (2019) 41 [[arXiv:1908.02350](#)] [[INSPIRE](#)].
- [3906] F. Foucart, *A brief overview of black hole-neutron star mergers*, *Front. Astron. Space Sci.* **7** (2020) 46 [[arXiv:2006.10570](#)] [[INSPIRE](#)].
- [3907] K. Kyutoku, M. Shibata and K. Taniguchi, *Coalescence of black hole–neutron star binaries*, *Living Rev. Rel.* **24** (2021) 5 [[arXiv:2110.06218](#)] [[INSPIRE](#)].
- [3908] K. Kyutoku, M. Shibata and K. Taniguchi, *Gravitational waves from nonspinning black hole-neutron star binaries: dependence on equations of state*, *Phys. Rev. D* **82** (2010) 044049 [*Erratum ibid.* **84** (2011) 049902] [[arXiv:1008.1460](#)] [[INSPIRE](#)].
- [3909] K. Kyutoku, H. Okawa, M. Shibata and K. Taniguchi, *Gravitational waves from spinning black hole-neutron star binaries: dependence on black hole spins and on neutron star equations of state*, *Phys. Rev. D* **84** (2011) 064018 [[arXiv:1108.1189](#)] [[INSPIRE](#)].
- [3910] K. Kawaguchi et al., *Black hole-neutron star binary merger: Dependence on black hole spin orientation and equation of state*, *Phys. Rev. D* **92** (2015) 024014 [[arXiv:1506.05473](#)] [[INSPIRE](#)].
- [3911] M.D. Duez et al., *Equation of state effects in black hole-neutron star mergers*, *Class. Quant. Grav.* **27** (2010) 114106 [[arXiv:0912.3528](#)] [[INSPIRE](#)].

- [3912] M. Ruiz, S.L. Shapiro and A. Tsokaros, *Multimessenger Binary Mergers Containing Neutron Stars: Gravitational Waves, Jets, and  $\gamma$ -Ray Bursts*, *Front. Astron. Space Sci.* **8** (2021) 39 [[arXiv:2102.03366](#)] [[INSPIRE](#)].
- [3913] B. Khamesra, M. Gracia-Linares and P. Laguna, *Black hole–neutron star binary mergers: the imprint of tidal deformations and debris*, *Class. Quant. Grav.* **38** (2021) 185008 [[arXiv:2101.10252](#)] [[INSPIRE](#)].
- [3914] F. Zappa et al., *Black-Hole Remnants from Black-Hole–Neutron-Star Mergers*, *Phys. Rev. Lett.* **123** (2019) 041102 [[arXiv:1903.11622](#)] [[INSPIRE](#)].
- [3915] K. Hayashi et al., *Properties of the remnant disk and the dynamical ejecta produced in low-mass black hole-neutron star mergers*, *Phys. Rev. D* **103** (2021) 043007 [[arXiv:2010.02563](#)] [[INSPIRE](#)].
- [3916] K. Hayashi et al., *General-relativistic neutrino-radiation magnetohydrodynamics simulation of seconds-long black hole-neutron star mergers: Dependence on the initial magnetic field strength, configuration, and neutron-star equation of state*, *Phys. Rev. D* **107** (2023) 123001 [[arXiv:2211.07158](#)] [[INSPIRE](#)].
- [3917] K. Hayashi et al., *General-relativistic neutrino-radiation magnetohydrodynamic simulation of seconds-long black hole-neutron star mergers*, *Phys. Rev. D* **106** (2022) 023008 [[arXiv:2111.04621](#)] [[INSPIRE](#)].
- [3918] E.R. Most, L.J. Papenfort, S.D. Tootle and L. Rezzolla, *On accretion discs formed in MHD simulations of black hole–neutron star mergers with accurate microphysics*, *Mon. Not. Roy. Astron. Soc.* **506** (2021) 3511 [[arXiv:2106.06391](#)] [[INSPIRE](#)].
- [3919] F. Foucart et al., *High-accuracy waveforms for black hole-neutron star systems with spinning black holes*, *Phys. Rev. D* **103** (2021) 064007 [[arXiv:2010.14518](#)] [[INSPIRE](#)].
- [3920] B.C. Stephens, W.E. East and F. Pretorius, *Eccentric Black Hole-Neutron Star Mergers*, *Astrophys. J. Lett.* **737** (2011) L5 [[arXiv:1105.3175](#)] [[INSPIRE](#)].
- [3921] R. Gold et al., *Eccentric binary neutron star mergers*, *Phys. Rev. D* **86** (2012) 121501 [[arXiv:1109.5128](#)] [[INSPIRE](#)].
- [3922] F. Pannarale, *Black hole remnant of black hole-neutron star coalescing binaries with arbitrary black hole spin*, *Phys. Rev. D* **89** (2014) 044045 [[arXiv:1311.5931](#)] [[INSPIRE](#)].
- [3923] A. Henkel, F. Foucart, G. Raaijmakers and S. Nissanke, *Study of the agreement between binary neutron star ejecta models derived from numerical relativity simulations*, *Phys. Rev. D* **107** (2023) 063028 [[arXiv:2207.07658](#)] [[INSPIRE](#)].
- [3924] K. Kiuchi et al., *High resolution magnetohydrodynamic simulation of black hole-neutron star merger: Mass ejection and short gamma ray bursts*, *Phys. Rev. D* **92** (2015) 064034 [[arXiv:1506.06811](#)] [[INSPIRE](#)].
- [3925] V. Paschalidis, M. Ruiz and S.L. Shapiro, *Relativistic Simulations of Black Hole–neutron Star Coalescence: the jet Emerges*, *Astrophys. J. Lett.* **806** (2015) L14 [[arXiv:1410.7392](#)] [[INSPIRE](#)].
- [3926] M. Ruiz, R.N. Lang, V. Paschalidis and S.L. Shapiro, *Binary Neutron Star Mergers: a jet Engine for Short Gamma-ray Bursts*, *Astrophys. J. Lett.* **824** (2016) L6 [[arXiv:1604.02455](#)] [[INSPIRE](#)].
- [3927] D.M. Siegel and B.D. Metzger, *Three-dimensional GRMHD simulations of neutrino-cooled accretion disks from neutron star mergers*, *Astrophys. J.* **858** (2018) 52 [[arXiv:1711.00868](#)] [[INSPIRE](#)].

- [3928] I.M. Christie et al., *The Role of Magnetic Field Geometry in the Evolution of Neutron Star Merger Accretion Discs*, *Mon. Not. Roy. Astron. Soc.* **490** (2019) 4811 [[arXiv:1907.02079](#)] [[INSPIRE](#)].
- [3929] S. Fujibayashi et al., *Comprehensive Study of Mass Ejection and Nucleosynthesis in Binary Neutron Star Mergers Leaving Short-lived Massive Neutron Stars*, *Astrophys. J.* **942** (2023) 39 [[arXiv:2205.05557](#)] [[INSPIRE](#)].
- [3930] T. Fischer et al., *The state of matter in simulations of core-collapse supernovae — Reflections and recent developments*, *Publ. Astron. Soc. Austral.* **34** (2017) 67 [[arXiv:1711.07411](#)] [[INSPIRE](#)].
- [3931] D. Vartanyan and A. Burrows, *Gravitational Waves from Neutrino Emission Asymmetries in Core-collapse Supernovae*, *Astrophys. J.* **901** (2020) 108 [[arXiv:2007.07261](#)] [[INSPIRE](#)].
- [3932] S.R. Lau, G. Lovelace and H.P. Pfeiffer, *Implicit-explicit (IMEX) evolution of single black holes*, *Phys. Rev. D* **84** (2011) 084023 [[arXiv:1105.3922](#)] [[INSPIRE](#)].
- [3933] L.T. Buchman, H.P. Pfeiffer, M.A. Scheel and B. Szilagyi, *Simulations of non-equal mass black hole binaries with spectral methods*, *Phys. Rev. D* **86** (2012) 084033 [[arXiv:1206.3015](#)] [[INSPIRE](#)].
- [3934] D.A. Hemberger et al., *Dynamical Excision Boundaries in Spectral Evolutions of Binary Black Hole Spacetimes*, *Class. Quant. Grav.* **30** (2013) 115001 [[arXiv:1211.6079](#)] [[INSPIRE](#)].
- [3935] S. Brandt and B. Bruegmann, *A simple construction of initial data for multiple black holes*, *Phys. Rev. Lett.* **78** (1997) 3606 [[gr-qc/9703066](#)] [[INSPIRE](#)].
- [3936] M. Caudill, G.B. Cook, J.D. Grigsby and H.P. Pfeiffer, *Circular orbits and spin in black-hole initial data*, *Phys. Rev. D* **74** (2006) 064011 [[gr-qc/0605053](#)] [[INSPIRE](#)].
- [3937] R.J. Gleiser, C.O. Nicasio, R.H. Price and J. Pullin, *Evolving the Bowen-York initial data for spinning black holes*, *Phys. Rev. D* **57** (1998) 3401 [[gr-qc/9710096](#)] [[INSPIRE](#)].
- [3938] S. Dain, C.O. Lousto and R. Takahashi, *New conformally flat initial data for spinning black holes*, *Phys. Rev. D* **65** (2002) 104038 [[gr-qc/0201062](#)] [[INSPIRE](#)].
- [3939] S. Dain, C.O. Lousto and Y. Zlochower, *Extra-Large Remnant Recoil Velocities and Spins from Near-Extremal-Bowen-York-Spin Black-Hole Binaries*, *Phys. Rev. D* **78** (2008) 024039 [[arXiv:0803.0351](#)] [[INSPIRE](#)].
- [3940] G. Lovelace, R. Owen, H.P. Pfeiffer and T. Chu, *Binary-black-hole initial data with nearly-extremal spins*, *Phys. Rev. D* **78** (2008) 084017 [[arXiv:0805.4192](#)] [[INSPIRE](#)].
- [3941] G. Lovelace, M.A. Scheel and B. Szilagyi, *Simulating merging binary black holes with nearly extremal spins*, *Phys. Rev. D* **83** (2011) 024010 [[arXiv:1010.2777](#)] [[INSPIRE](#)].
- [3942] G. Lovelace et al., *Nearly extremal apparent horizons in simulations of merging black holes*, *Class. Quant. Grav.* **32** (2015) 065007 [[arXiv:1411.7297](#)] [[INSPIRE](#)].
- [3943] J. Healy, C.O. Lousto, I. Ruchlin and Y. Zlochower, *Evolutions of unequal mass, highly spinning black hole binaries*, *Phys. Rev. D* **97** (2018) 104026 [[arXiv:1711.09041](#)] [[INSPIRE](#)].
- [3944] H.P. Pfeiffer et al., *Reducing orbital eccentricity in binary black hole simulations*, *Class. Quant. Grav.* **24** (2007) S59 [[gr-qc/0702106](#)] [[INSPIRE](#)].
- [3945] S. Husa et al., *Reducing eccentricity in black-hole binary evolutions with initial parameters from post-Newtonian inspiral*, *Phys. Rev. D* **77** (2008) 044037 [[arXiv:0706.0904](#)] [[INSPIRE](#)].
- [3946] A. Buonanno et al., *Reducing orbital eccentricity of precessing black-hole binaries*, *Phys. Rev. D* **83** (2011) 104034 [[arXiv:1012.1549](#)] [[INSPIRE](#)].

- [3947] W. Tichy and P. Marronetti, *A simple method to set up low eccentricity initial data for moving puncture simulations*, *Phys. Rev. D* **83** (2011) 024012 [[arXiv:1010.2936](#)] [[INSPIRE](#)].
- [3948] M. Purrer, S. Husa and M. Hannam, *An efficient iterative method to reduce eccentricity in numerical-relativity simulations of compact binary inspiral*, *Phys. Rev. D* **85** (2012) 124051 [[arXiv:1203.4258](#)] [[INSPIRE](#)].
- [3949] A. Ramos-Buades, S. Husa and G. Pratten, *Simple procedures to reduce eccentricity of binary black hole simulations*, *Phys. Rev. D* **99** (2019) 023003 [[arXiv:1810.00036](#)] [[INSPIRE](#)].
- [3950] S. Habib et al., *Initial Data and Eccentricity Reduction Toolkit for Binary Black Hole Numerical Relativity Waveforms*, *Class. Quant. Grav.* **38** (2021) 125007 [[arXiv:2011.08878](#)] [[INSPIRE](#)].
- [3951] I. Hinder, F. Herrmann, P. Laguna and D. Shoemaker, *Comparisons of eccentric binary black hole simulations with post-Newtonian models*, *Phys. Rev. D* **82** (2010) 024033 [[arXiv:0806.1037](#)] [[INSPIRE](#)].
- [3952] T. Islam et al., *Eccentric binary black hole surrogate models for the gravitational waveform and remnant properties: comparable mass, nonspinning case*, *Phys. Rev. D* **103** (2021) 064022 [[arXiv:2101.11798](#)] [[INSPIRE](#)].
- [3953] A. Ciarfella, J. Healy, C.O. Lousto and H. Nakano, *Eccentricity estimation from initial data for numerical relativity simulations*, *Phys. Rev. D* **106** (2022) 104035 [[arXiv:2206.13532](#)] [[INSPIRE](#)].
- [3954] C.A. Raithel and V. Paschalidis, *Improving the convergence order of binary neutron star merger simulations in the Baumgarte- Shapiro-Shibata-Nakamura formulation*, *Phys. Rev. D* **106** (2022) 023015 [[arXiv:2204.00698](#)] [[INSPIRE](#)].
- [3955] P.L. Espino, A. Prakash, D. Radice and D. Logoteta, *Revealing phase transition in dense matter with gravitational wave spectroscopy of binary neutron star mergers*, *Phys. Rev. D* **109** (2024) 123009 [[arXiv:2301.03619](#)] [[INSPIRE](#)].
- [3956] M. Ujevic et al., *Reverse phase transitions in binary neutron-star systems with exotic-matter cores*, *Phys. Rev. D* **107** (2023) 024025 [[arXiv:2211.04662](#)] [[INSPIRE](#)].
- [3957] A. Bauswein, R. Oechslin and H.-T. Janka, *Discriminating Strange Star Mergers from Neutron Star Mergers by Gravitational-Wave Measurements*, *Phys. Rev. D* **81** (2010) 024012 [[arXiv:0910.5169](#)] [[INSPIRE](#)].
- [3958] M. Bezares et al., *Gravitational waves and kicks from the merger of unequal mass, highly compact boson stars*, *Phys. Rev. D* **105** (2022) 064067 [[arXiv:2201.06113](#)] [[INSPIRE](#)].
- [3959] O. Gottlieb et al., *Large-scale Evolution of Seconds-long Relativistic Jets from Black Hole–Neutron Star Mergers*, *Astrophys. J. Lett.* **954** (2023) L21 [[arXiv:2306.14947](#)] [[INSPIRE](#)].
- [3960] S. Curtis et al., *Nucleosynthesis in Outflows from Black Hole–Neutron Star Merger Disks with Full GR( $\nu$ )RMHD*, *Astrophys. J. Lett.* **945** (2023) L13 [[arXiv:2212.10691](#)] [[INSPIRE](#)].
- [3961] L.E. Kidder et al., *SpECTRE: A task-based discontinuous Galerkin code for relativistic astrophysics*, *J. Comput. Phys.* **335** (2017) 84 [[arXiv:1609.00098](#)] [[INSPIRE](#)].
- [3962] J. Moxon et al., *SpECTRE Cauchy-characteristic evolution system for rapid, precise waveform extraction*, *Phys. Rev. D* **107** (2023) 064013 [[arXiv:2110.08635](#)] [[INSPIRE](#)].
- [3963] N. Deppe et al., *Spectre*, DOI:10.5281/zenodo.5083825 (2021).

- [3964] M. Fernando et al., *Massively parallel simulations of binary black holes with adaptive wavelet multiresolution*, *Phys. Rev. D* **107** (2023) 064035 [[arXiv:2211.11575](#)] [[INSPIRE](#)].
- [3965] B. Daszuta et al., *GR-Athena++: Puncture Evolutions on Vertex-centered Oct-tree Adaptive Mesh Refinement*, *Astrophys. J. Supp.* **257** (2021) 25 [[arXiv:2101.08289](#)] [[INSPIRE](#)].
- [3966] A.J. Peterson, D. Willcox, P. Mösta and P. Moesta, *Code generation for AMReX with applications to numerical relativity*, *Class. Quant. Grav.* **40** (2023) 245013 [[arXiv:2301.08354](#)] [[INSPIRE](#)].
- [3967] C. Reisswig and D. Pollney, *Notes on the integration of numerical relativity waveforms*, *Class. Quant. Grav.* **28** (2011) 195015 [[arXiv:1006.1632](#)] [[INSPIRE](#)].
- [3968] M. Shibata, K. Kiuchi and Y.-I. Sekiguchi, *General relativistic viscous hydrodynamics of differentially rotating neutron stars*, *Phys. Rev. D* **95** (2017) 083005 [[arXiv:1703.10303](#)] [[INSPIRE](#)].
- [3969] C. Palenzuela, S. Liebling and B. Miñano, *Large eddy simulations of magnetized mergers of neutron stars with neutrinos*, *Phys. Rev. D* **105** (2022) 103020 [[arXiv:2204.02721](#)] [[INSPIRE](#)].
- [3970] A. Buonanno and B.S. Sathyaprakash, *Sources of Gravitational Waves: Theory and Observations*, [arXiv:1410.7832](#) [[INSPIRE](#)].
- [3971] W.D. Goldberger, *Les Houches lectures on effective field theories and gravitational radiation*, in the proceedings of the *Les Houches Summer School — Session 86: Particle Physics and Cosmology: The Fabric of Spacetime*, Les Houches, France, July 31 – August 25 (2006) [[hep-ph/0701129](#)] [[INSPIRE](#)].
- [3972] S. Foffa and R. Sturani, *Effective field theory methods to model compact binaries*, *Class. Quant. Grav.* **31** (2014) 043001 [[arXiv:1309.3474](#)] [[INSPIRE](#)].
- [3973] M. Levi, *Effective Field Theories of Post-Newtonian Gravity: A comprehensive review*, *Rept. Prog. Phys.* **83** (2020) 075901 [[arXiv:1807.01699](#)] [[INSPIRE](#)].
- [3974] L. Blanchet, *Analyzing Gravitational Waves with General Relativity*, *Comptes Rendus Physique* **20** (2019) 507 [[arXiv:1902.09801](#)] [[INSPIRE](#)].
- [3975] L. Blanchet et al., *Gravitational-Wave Phasing of Quasicircular Compact Binary Systems to the Fourth-and-a-Half Post-Newtonian Order*, *Phys. Rev. Lett.* **131** (2023) 121402 [[arXiv:2304.11185](#)] [[INSPIRE](#)].
- [3976] Q. Henry, *Complete gravitational-waveform amplitude modes for quasicircular compact binaries to the 3.5PN order*, *Phys. Rev. D* **107** (2023) 044057 [[arXiv:2210.15602](#)] [[INSPIRE](#)].
- [3977] Q. Henry, S. Marsat and M. Khalil, *Spin contributions to the gravitational-waveform modes for spin-aligned binaries at the 3.5PN order*, *Phys. Rev. D* **106** (2022) 124018 [[arXiv:2209.00374](#)] [[INSPIRE](#)].
- [3978] K. Chatziioannou, E. Poisson and N. Yunes, *Tidal heating and torquing of a Kerr black hole to next-to-leading order in the tidal coupling*, *Phys. Rev. D* **87** (2013) 044022 [[arXiv:1211.1686](#)] [[INSPIRE](#)].
- [3979] K.G. Arun, A. Buonanno, G. Faye and E. Ochsner, *Higher-order spin effects in the amplitude and phase of gravitational waveforms emitted by inspiraling compact binaries: Ready-to-use gravitational waveforms*, *Phys. Rev. D* **79** (2009) 104023 [Erratum *ibid.* **84** (2011) 049901] [[arXiv:0810.5336](#)] [[INSPIRE](#)].
- [3980] E. Poisson, *Gravitational waves from inspiraling compact binaries: The quadrupole moment term*, *Phys. Rev. D* **57** (1998) 5287 [[gr-qc/9709032](#)] [[INSPIRE](#)].

- [3981] L.A. Gergely and Z. Keresztes, *Gravitational radiation reaction in compact binary systems: Contribution of the quadrupole–monopole interaction*, *Phys. Rev. D* **67** (2003) 024020 [[gr-qc/0211027](#)] [[INSPIRE](#)].
- [3982] P. Jaranowski and G. Schäfer, *Dimensional regularization of local singularities in the 4th post-Newtonian two-point-mass Hamiltonian*, *Phys. Rev. D* **87** (2013) 081503 [[arXiv:1303.3225](#)] [[INSPIRE](#)].
- [3983] P. Jaranowski and G. Schäfer, *Derivation of local-in-time fourth post-Newtonian ADM Hamiltonian for spinless compact binaries*, *Phys. Rev. D* **92** (2015) 124043 [[arXiv:1508.01016](#)] [[INSPIRE](#)].
- [3984] T. Damour, P. Jaranowski and G. Schäfer, *Fourth post-Newtonian effective one-body dynamics*, *Phys. Rev. D* **91** (2015) 084024 [[arXiv:1502.07245](#)] [[INSPIRE](#)].
- [3985] T. Damour, P. Jaranowski and G. Schäfer, *Conservative dynamics of two-body systems at the fourth post-Newtonian approximation of general relativity*, *Phys. Rev. D* **93** (2016) 084014 [[arXiv:1601.01283](#)] [[INSPIRE](#)].
- [3986] L. Bernard et al., *Fokker action of nonspinning compact binaries at the fourth post-Newtonian approximation*, *Phys. Rev. D* **93** (2016) 084037 [[arXiv:1512.02876](#)] [[INSPIRE](#)].
- [3987] L. Bernard et al., *Energy and periastron advance of compact binaries on circular orbits at the fourth post-Newtonian order*, *Phys. Rev. D* **95** (2017) 044026 [[arXiv:1610.07934](#)] [[INSPIRE](#)].
- [3988] T. Marchand, L. Bernard, L. Blanchet and G. Faye, *Ambiguity-Free Completion of the Equations of Motion of Compact Binary Systems at the Fourth Post-Newtonian Order*, *Phys. Rev. D* **97** (2018) 044023 [[arXiv:1707.09289](#)] [[INSPIRE](#)].
- [3989] L. Bernard, L. Blanchet, G. Faye and T. Marchand, *Center-of-Mass Equations of Motion and Conserved Integrals of Compact Binary Systems at the Fourth Post-Newtonian Order*, *Phys. Rev. D* **97** (2018) 044037 [[arXiv:1711.00283](#)] [[INSPIRE](#)].
- [3990] S. Foffa and R. Sturani, *Dynamics of the gravitational two-body problem at fourth post-Newtonian order and at quadratic order in the Newton constant*, *Phys. Rev. D* **87** (2013) 064011 [[arXiv:1206.7087](#)] [[INSPIRE](#)].
- [3991] S. Foffa and R. Sturani, *Conservative dynamics of binary systems to fourth Post-Newtonian order in the EFT approach I: Regularized Lagrangian*, *Phys. Rev. D* **100** (2019) 024047 [[arXiv:1903.05113](#)] [[INSPIRE](#)].
- [3992] J. Blümlein, A. Maier, P. Marquard and G. Schäfer, *Fourth post-Newtonian Hamiltonian dynamics of two-body systems from an effective field theory approach*, *Nucl. Phys. B* **955** (2020) 115041 [[arXiv:2003.01692](#)] [[INSPIRE](#)].
- [3993] A.K. Leibovich, B.A. Pardo and Z. Yang, *Radiation reaction for nonspinning bodies at 4.5PN in the effective field theory approach*, *Phys. Rev. D* **108** (2023) 024017 [[arXiv:2302.11016](#)] [[INSPIRE](#)].
- [3994] J. Blümlein, A. Maier, P. Marquard and G. Schäfer, *The fifth-order post-Newtonian Hamiltonian dynamics of two-body systems from an effective field theory approach: potential contributions*, *Nucl. Phys. B* **965** (2021) 115352 [[arXiv:2010.13672](#)] [[INSPIRE](#)].
- [3995] L. Blanchet, S. Foffa, F. Larrouturou and R. Sturani, *Logarithmic tail contributions to the energy function of circular compact binaries*, *Phys. Rev. D* **101** (2020) 084045 [[arXiv:1912.12359](#)] [[INSPIRE](#)].

- [3996] Y. Itoh and T. Futamase, *New derivation of a third postNewtonian equation of motion for relativistic compact binaries without ambiguity*, *Phys. Rev. D* **68** (2003) 121501 [[gr-qc/0310028](#)] [[INSPIRE](#)].
- [3997] S.M. Kopeikin, *The equations of motion of extended bodies in general-relativity with conservative corrections and radiation damping taken into account*, *Astron. Zh.* **62** (1985) 889.
- [3998] K.S. Thorne, *Multipole Expansions of Gravitational Radiation*, *Rev. Mod. Phys.* **52** (1980) 299 [[INSPIRE](#)].
- [3999] A. Einstein, *Über Gravitationswellen*, *Sitzungsber. Preuss. Akad. Wiss. Berlin (Math. Phys.)* **1918** (1918) 154 [[INSPIRE](#)].
- [4000] L. Blanchet, G. Faye, B.R. Iyer and B. Joguet, *Gravitational wave inspiral of compact binary systems to  $7/2$  postNewtonian order*, *Phys. Rev. D* **65** (2002) 061501 [Erratum *ibid.* **71** (2005) 129902] [[gr-qc/0105099](#)] [[INSPIRE](#)].
- [4001] G. Faye, S. Marsat, L. Blanchet and B.R. Iyer, *The third and a half post-Newtonian gravitational wave quadrupole mode for quasi-circular inspiralling compact binaries*, *Class. Quant. Grav.* **29** (2012) 175004 [[arXiv:1204.1043](#)] [[INSPIRE](#)].
- [4002] G. Faye, L. Blanchet and B.R. Iyer, *Non-linear multipole interactions and gravitational-wave octupole modes for inspiralling compact binaries to third-and-a-half post-Newtonian order*, *Class. Quant. Grav.* **32** (2015) 045016 [[arXiv:1409.3546](#)] [[INSPIRE](#)].
- [4003] L. Blanchet, G. Faye, B.R. Iyer and S. Sinha, *The Third post-Newtonian gravitational wave polarisations and associated spherical harmonic modes for inspiralling compact binaries in quasi-circular orbits*, *Class. Quant. Grav.* **25** (2008) 165003 [Erratum *ibid.* **29** (2012) 239501] [[arXiv:0802.1249](#)] [[INSPIRE](#)].
- [4004] Q. Henry, G. Faye and L. Blanchet, *The current-type quadrupole moment and gravitational-wave mode  $(\ell, m) = (2, 1)$  of compact binary systems at the third post-Newtonian order*, *Class. Quant. Grav.* **38** (2021) 185004 [[arXiv:2105.10876](#)] [[INSPIRE](#)].
- [4005] T. Marchand et al., *The mass quadrupole moment of compact binary systems at the fourth post-Newtonian order*, *Class. Quant. Grav.* **37** (2020) 215006 [[arXiv:2003.13672](#)] [[INSPIRE](#)].
- [4006] F. Larrouturou, Q. Henry, L. Blanchet and G. Faye, *The quadrupole moment of compact binaries to the fourth post-Newtonian order: I. Non-locality in time and infra-red divergencies*, *Class. Quant. Grav.* **39** (2022) 115007 [[arXiv:2110.02240](#)] [[INSPIRE](#)].
- [4007] F. Larrouturou, L. Blanchet, Q. Henry and G. Faye, *The quadrupole moment of compact binaries to the fourth post-Newtonian order: II. Dimensional regularization and renormalization*, *Class. Quant. Grav.* **39** (2022) 115008 [[arXiv:2110.02243](#)] [[INSPIRE](#)].
- [4008] L. Blanchet, G. Faye and F. Larrouturou, *The quadrupole moment of compact binaries to the fourth post-Newtonian order: from source to canonical moment*, *Class. Quant. Grav.* **39** (2022) 195003 [[arXiv:2204.11293](#)] [[INSPIRE](#)].
- [4009] D. Trestini, F. Larrouturou and L. Blanchet, *The quadrupole moment of compact binaries to the fourth post-Newtonian order: relating the harmonic and radiative metrics*, *Class. Quant. Grav.* **40** (2023) 055006 [[arXiv:2209.02719](#)] [[INSPIRE](#)].
- [4010] D. Trestini and L. Blanchet, *Gravitational-wave tails of memory*, *Phys. Rev. D* **107** (2023) 104048 [[arXiv:2301.09395](#)] [[INSPIRE](#)].
- [4011] T. Marchand, L. Blanchet and G. Faye, *Gravitational-wave tail effects to quartic non-linear order*, *Class. Quant. Grav.* **33** (2016) 244003 [[arXiv:1607.07601](#)] [[INSPIRE](#)].

- [4012] L. Blanchet et al., *Gravitational-wave flux and quadrupole modes from quasicircular nonspinning compact binaries to the fourth post-Newtonian order*, *Phys. Rev. D* **108** (2023) 064041 [[arXiv:2304.11186](#)] [[INSPIRE](#)].
- [4013] F. Messina and A. Nagar, *Parametrized-4.5PN TaylorF2 approximants and tail effects to quartic nonlinear order from the effective one body formalism*, *Phys. Rev. D* **95** (2017) 124001 [*Erratum ibid.* **96** (2017) 049907] [[arXiv:1703.08107](#)] [[INSPIRE](#)].
- [4014] A.K. Leibovich, N.T. Maia, I.Z. Rothstein and Z. Yang, *Second post-Newtonian order radiative dynamics of inspiralling compact binaries in the Effective Field Theory approach*, *Phys. Rev. D* **101** (2020) 084058 [[arXiv:1912.12546](#)] [[INSPIRE](#)].
- [4015] C.M. Will and A.G. Wiseman, *Gravitational radiation from compact binary systems: Gravitational wave forms and energy loss to second postNewtonian order*, *Phys. Rev. D* **54** (1996) 4813 [[gr-qc/9608012](#)] [[INSPIRE](#)].
- [4016] E. Poisson and M. Sasaki, *Gravitational radiation from a particle in circular orbit around a black hole. 5: Black hole absorption and tail corrections*, *Phys. Rev. D* **51** (1995) 5753 [[gr-qc/9412027](#)] [[INSPIRE](#)].
- [4017] H. Tagoshi, S. Mano and E. Takasugi, *PostNewtonian expansion of gravitational waves from a particle in circular orbits around a rotating black hole: Effects of black hole absorption*, *Prog. Theor. Phys.* **98** (1997) 829 [[gr-qc/9711072](#)] [[INSPIRE](#)].
- [4018] K. Alvi, *Energy and angular momentum flow into a black hole in a binary*, *Phys. Rev. D* **64** (2001) 104020 [[gr-qc/0107080](#)] [[INSPIRE](#)].
- [4019] M.V.S. Saketh, J. Steinhoff, J. Vines and A. Buonanno, *Modeling horizon absorption in spinning binary black holes using effective worldline theory*, *Phys. Rev. D* **107** (2023) 084006 [[arXiv:2212.13095](#)] [[INSPIRE](#)].
- [4020] L.E. Kidder, *Coalescing binary systems of compact objects to postNewtonian 5/2 order. 5. Spin effects*, *Phys. Rev. D* **52** (1995) 821 [[gr-qc/9506022](#)] [[INSPIRE](#)].
- [4021] L.Á. Gergely and Z. Keresztes, *Spinning compact binary dynamics and chameleon orbits*, *Phys. Rev. D* **91** (2015) 024012 [[arXiv:1411.4057](#)] [[INSPIRE](#)].
- [4022] L.A. Gergely, Z.I. Perjes and M. Vasuth, *Spin effects in gravitational radiation back reaction. 3. Compact binaries with two spinning components*, *Phys. Rev. D* **58** (1998) 124001 [[gr-qc/9808063](#)] [[INSPIRE](#)].
- [4023] L.A. Gergely, *Spin spin effects in radiating compact binaries*, *Phys. Rev. D* **61** (2000) 024035 [[gr-qc/9911082](#)] [[INSPIRE](#)].
- [4024] G. Faye, L. Blanchet and A. Buonanno, *Higher-order spin effects in the dynamics of compact binaries. I. Equations of motion*, *Phys. Rev. D* **74** (2006) 104033 [[gr-qc/0605139](#)] [[INSPIRE](#)].
- [4025] L. Blanchet, A. Buonanno and G. Faye, *Higher-order spin effects in the dynamics of compact binaries. II. Radiation field*, *Phys. Rev. D* **74** (2006) 104034 [*Erratum ibid.* **75** (2007) 049903] [[gr-qc/0605140](#)] [[INSPIRE](#)].
- [4026] A. Bohé, S. Marsat and L. Blanchet, *Next-to-next-to-leading order spin-orbit effects in the gravitational wave flux and orbital phasing of compact binaries*, *Class. Quant. Grav.* **30** (2013) 135009 [[arXiv:1303.7412](#)] [[INSPIRE](#)].
- [4027] A. Bohe, S. Marsat, G. Faye and L. Blanchet, *Next-to-next-to-leading order spin-orbit effects in the near-zone metric and precession equations of compact binaries*, *Class. Quant. Grav.* **30** (2013) 075017 [[arXiv:1212.5520](#)] [[INSPIRE](#)].

- [4028] R.A. Porto and I.Z. Rothstein, *The Hyperfine Einstein-Infeld-Hoffmann potential*, *Phys. Rev. Lett.* **97** (2006) 021101 [[gr-qc/0604099](#)] [[INSPIRE](#)].
- [4029] R.A. Porto and I.Z. Rothstein, *Spin(1)Spin(2) Effects in the Motion of Inspiralling Compact Binaries at Third Order in the Post-Newtonian Expansion*, *Phys. Rev. D* **78** (2008) 044012 [*Erratum ibid.* **81** (2010) 029904] [[arXiv:0802.0720](#)] [[INSPIRE](#)].
- [4030] R.A. Porto and I.Z. Rothstein, *Next to Leading Order Spin(1)Spin(1) Effects in the Motion of Inspiralling Compact Binaries*, *Phys. Rev. D* **78** (2008) 044013 [*Erratum ibid.* **81** (2010) 029905] [[arXiv:0804.0260](#)] [[INSPIRE](#)].
- [4031] M. Levi and Z. Yin, *Completing the fifth PN precision frontier via the EFT of spinning gravitating objects*, *JHEP* **04** (2023) 079 [[arXiv:2211.14018](#)] [[INSPIRE](#)].
- [4032] S. Marsat, A. Bohé, L. Blanchet and A. Buonanno, *Next-to-leading tail-induced spin-orbit effects in the gravitational radiation flux of compact binaries*, *Class. Quant. Grav.* **31** (2014) 025023 [[arXiv:1307.6793](#)] [[INSPIRE](#)].
- [4033] N.T. Maia, C.R. Galley, A.K. Leibovich and R.A. Porto, *Radiation reaction for spinning bodies in effective field theory I: Spin-orbit effects*, *Phys. Rev. D* **96** (2017) 084064 [[arXiv:1705.07934](#)] [[INSPIRE](#)].
- [4034] N.T. Maia, C.R. Galley, A.K. Leibovich and R.A. Porto, *Radiation reaction for spinning bodies in effective field theory II: Spin-spin effects*, *Phys. Rev. D* **96** (2017) 084065 [[arXiv:1705.07938](#)] [[INSPIRE](#)].
- [4035] R.A. Porto, A. Ross and I.Z. Rothstein, *Spin induced multipole moments for the gravitational wave amplitude from binary inspirals to 2.5 Post-Newtonian order*, *JCAP* **09** (2012) 028 [[arXiv:1203.2962](#)] [[INSPIRE](#)].
- [4036] C.K. Mishra, A. Kela, K.G. Arun and G. Faye, *Ready-to-use post-Newtonian gravitational waveforms for binary black holes with nonprecessing spins: An update*, *Phys. Rev. D* **93** (2016) 084054 [[arXiv:1601.05588](#)] [[INSPIRE](#)].
- [4037] N. Siemonsen, J. Steinhoff and J. Vines, *Gravitational waves from spinning binary black holes at the leading post-Newtonian orders at all orders in spin*, *Phys. Rev. D* **97** (2018) 124046 [[arXiv:1712.08603](#)] [[INSPIRE](#)].
- [4038] T. Damour, A. Gopakumar and B.R. Iyer, *Phasing of gravitational waves from inspiralling eccentric binaries*, *Phys. Rev. D* **70** (2004) 064028 [[gr-qc/0404128](#)] [[INSPIRE](#)].
- [4039] R.-M. Memmesheimer, A. Gopakumar and G. Schaefer, *Third post-Newtonian accurate generalized quasi-Keplerian parametrization for compact binaries in eccentric orbits*, *Phys. Rev. D* **70** (2004) 104011 [[gr-qc/0407049](#)] [[INSPIRE](#)].
- [4040] K.G. Arun, L. Blanchet, B.R. Iyer and M.S.S. Qusailah, *Tail effects in the 3PN gravitational wave energy flux of compact binaries in quasi-elliptical orbits*, *Phys. Rev. D* **77** (2008) 064034 [[arXiv:0711.0250](#)] [[INSPIRE](#)].
- [4041] K.G. Arun, L. Blanchet, B.R. Iyer and M.S.S. Qusailah, *Inspiralling compact binaries in quasi-elliptical orbits: The Complete 3PN energy flux*, *Phys. Rev. D* **77** (2008) 064035 [[arXiv:0711.0302](#)] [[INSPIRE](#)].
- [4042] K.G. Arun, L. Blanchet, B.R. Iyer and S. Sinha, *Third post-Newtonian angular momentum flux and the secular evolution of orbital elements for inspiralling compact binaries in quasi-elliptical orbits*, *Phys. Rev. D* **80** (2009) 124018 [[arXiv:0908.3854](#)] [[INSPIRE](#)].

- [4043] G. Cho, S. Tanay, A. Gopakumar and H.M. Lee, *Generalized quasi-Keplerian solution for eccentric, nonspinning compact binaries at 4PN order and the associated inspiral-merger-ringdown waveform*, *Phys. Rev. D* **105** (2022) 064010 [[arXiv:2110.09608](#)] [[INSPIRE](#)].
- [4044] C.K. Mishra, K.G. Arun and B.R. Iyer, *Third post-Newtonian gravitational waveforms for compact binary systems in general orbits: Instantaneous terms*, *Phys. Rev. D* **91** (2015) 084040 [[arXiv:1501.07096](#)] [[INSPIRE](#)].
- [4045] Y. Boetzel et al., *Gravitational-wave amplitudes for compact binaries in eccentric orbits at the third post-Newtonian order: Tail contributions and postadiabatic corrections*, *Phys. Rev. D* **100** (2019) 044018 [[arXiv:1904.11814](#)] [[INSPIRE](#)].
- [4046] M. Ebersold et al., *Gravitational-wave amplitudes for compact binaries in eccentric orbits at the third post-Newtonian order: Memory contributions*, *Phys. Rev. D* **100** (2019) 084043 [[arXiv:1906.06263](#)] [[INSPIRE](#)].
- [4047] A. Klein and P. Jetzer, *Spin effects in the phasing of gravitational waves from binaries on eccentric orbits*, *Phys. Rev. D* **81** (2010) 124001 [[arXiv:1005.2046](#)] [[INSPIRE](#)].
- [4048] M. Tessmer, J. Hartung and G. Schafer, *Motion and gravitational wave forms of eccentric compact binaries with orbital-angular-momentum-aligned spins under next-to-leading order in spin-orbit and leading order in spin(1)-spin(2) and spin-squared couplings*, *Class. Quant. Grav.* **27** (2010) 165005 [[arXiv:1003.2735](#)] [[INSPIRE](#)].
- [4049] M. Tessmer, J. Hartung and G. Schafer, *Aligned Spins: Orbital Elements, Decaying Orbits, and Last Stable Circular Orbit to high post-Newtonian Orders*, *Class. Quant. Grav.* **30** (2013) 015007 [[arXiv:1207.6961](#)] [[INSPIRE](#)].
- [4050] M. Khalil, A. Buonanno, J. Steinhoff and J. Vines, *Radiation-reaction force and multipolar waveforms for eccentric, spin-aligned binaries in the effective-one-body formalism*, *Phys. Rev. D* **104** (2021) 024046 [[arXiv:2104.11705](#)] [[INSPIRE](#)].
- [4051] Q. Henry and M. Khalil, *Spin effects in gravitational waveforms and fluxes for binaries on eccentric orbits to the third post-Newtonian order*, *Phys. Rev. D* **108** (2023) 104016 [[arXiv:2308.13606](#)] [[INSPIRE](#)].
- [4052] L.A. Gergely, *Spinning compact binary inspiral: Independent variables and dynamically preserved spin configurations*, *Phys. Rev. D* **81** (2010) 084025 [[arXiv:0912.0459](#)] [[INSPIRE](#)].
- [4053] L.A. Gergely, *Spinning compact binary inspiral II: Conservative angular dynamics*, *Phys. Rev. D* **82** (2010) 104031 [[arXiv:1005.5330](#)] [[INSPIRE](#)].
- [4054] A. Klein, *EFPE: Efficient fully precessing eccentric gravitational waveforms for binaries with long inspirals*, [arXiv:2106.10291](#) [[INSPIRE](#)].
- [4055] K. Paul and C.K. Mishra, *Spin effects in spherical harmonic modes of gravitational waves from eccentric compact binary inspirals*, *Phys. Rev. D* **108** (2023) 024023 [[arXiv:2211.04155](#)] [[INSPIRE](#)].
- [4056] Z. Liu, R.A. Porto and Z. Yang, *Spin Effects in the Effective Field Theory Approach to Post-Minkowskian Conservative Dynamics*, *JHEP* **06** (2021) 012 [[arXiv:2102.10059](#)] [[INSPIRE](#)].
- [4057] G.U. Jakobsen, G. Mogull, J. Plefka and J. Steinhoff, *SUSY in the sky with gravitons*, *JHEP* **01** (2022) 027 [[arXiv:2109.04465](#)] [[INSPIRE](#)].
- [4058] Z. Bern et al., *Scattering Amplitudes and Conservative Binary Dynamics at  $\mathcal{O}(G^4)$* , *Phys. Rev. Lett.* **126** (2021) 171601 [[arXiv:2101.07254](#)] [[INSPIRE](#)].

- [4059] P.H. Damgaard, E.R. Hansen, L. Planté and P. Vanhove, *Classical observables from the exponential representation of the gravitational S-matrix*, *JHEP* **09** (2023) 183 [[arXiv:2307.04746](#)] [[INSPIRE](#)].
- [4060] R. Aoude, K. Haddad and A. Helset, *Classical Gravitational Spinning-Spinless Scattering at  $O(G^2S^\infty)$* , *Phys. Rev. Lett.* **129** (2022) 141102 [[arXiv:2205.02809](#)] [[INSPIRE](#)].
- [4061] D. Bini et al., *Gravitational waveforms: A tale of two formalisms*, *Phys. Rev. D* **109** (2024) 125008 [[arXiv:2402.06604](#)] [[INSPIRE](#)].
- [4062] A. Georgoudis, C. Heissenberg and R. Russo, *Post-Newtonian multipoles from the next-to-leading post-Minkowskian gravitational waveform*, *Phys. Rev. D* **109** (2024) 106020 [[arXiv:2402.06361](#)] [[INSPIRE](#)].
- [4063] A. Brandhuber et al., *One-loop gravitational bremsstrahlung and waveforms from a heavy-mass effective field theory*, *JHEP* **06** (2023) 048 [[arXiv:2303.06111](#)] [[INSPIRE](#)].
- [4064] M.V.S. Saketh, Z. Zhou and M.M. Ivanov, *Dynamical tidal response of Kerr black holes from scattering amplitudes*, *Phys. Rev. D* **109** (2024) 064058 [[arXiv:2307.10391](#)] [[INSPIRE](#)].
- [4065] G.U. Jakobsen, G. Mogull, J. Plefka and B. Sauer, *Tidal effects and renormalization at fourth post-Minkowskian order*, *Phys. Rev. D* **109** (2024) L041504 [[arXiv:2312.00719](#)] [[INSPIRE](#)].
- [4066] J. Blümlein, A. Maier, P. Marquard and G. Schäfer, *The fifth-order post-Newtonian Hamiltonian dynamics of two-body systems from an effective field theory approach*, *Nucl. Phys. B* **983** (2022) 115900 [Erratum *ibid.* **985** (2022) 115991] [[arXiv:2110.13822](#)] [[INSPIRE](#)].
- [4067] G.L. Almeida, S. Foffa and R. Sturani, *Gravitational radiation contributions to the two-body scattering angle*, *Phys. Rev. D* **107** (2023) 024020 [[arXiv:2209.11594](#)] [[INSPIRE](#)].
- [4068] G.L. Almeida, A. Müller, S. Foffa and R. Sturani, *Conservative binary dynamics from gravitational tail emission processes*, *Phys. Rev. D* **108** (2023) 124010 [[arXiv:2307.05327](#)] [[INSPIRE](#)].
- [4069] Q. Henry and F. Larrouturou, *Conservative tail and failed-tail effects at the fifth post-Newtonian order*, *Phys. Rev. D* **108** (2023) 084048 [[arXiv:2307.05860](#)] [[INSPIRE](#)].
- [4070] N. Yunes, K.G. Arun, E. Berti and C.M. Will, *Post-Circular Expansion of Eccentric Binary Inspirals: Fourier-Domain Waveforms in the Stationary Phase Approximation*, *Phys. Rev. D* **80** (2009) 084001 [Erratum *ibid.* **89** (2014) 109901] [[arXiv:0906.0313](#)] [[INSPIRE](#)].
- [4071] S. Tanay, M. Haney and A. Gopakumar, *Frequency and time domain inspiral templates for comparable mass compact binaries in eccentric orbits*, *Phys. Rev. D* **93** (2016) 064031 [[arXiv:1602.03081](#)] [[INSPIRE](#)].
- [4072] B. Moore, M. Favata, K.G. Arun and C.K. Mishra, *Gravitational-wave phasing for low-eccentricity inspiralling compact binaries to 3PN order*, *Phys. Rev. D* **93** (2016) 124061 [[arXiv:1605.00304](#)] [[INSPIRE](#)].
- [4073] S. Tiwari, G. Achamveedu, M. Haney and P. Hemantakumar, *Ready-to-use Fourier domain templates for compact binaries inspiraling along moderately eccentric orbits*, *Phys. Rev. D* **99** (2019) 124008 [[arXiv:1905.07956](#)] [[INSPIRE](#)].
- [4074] B. Moore, T. Robson, N. Loutrel and N. Yunes, *Towards a Fourier domain waveform for non-spinning binaries with arbitrary eccentricity*, *Class. Quant. Grav.* **35** (2018) 235006 [[arXiv:1807.07163](#)] [[INSPIRE](#)].
- [4075] B. Moore and N. Yunes, *A 3PN Fourier Domain Waveform for Non-Spinning Binaries with Moderate Eccentricity*, *Class. Quant. Grav.* **36** (2019) 185003 [[arXiv:1903.05203](#)] [[INSPIRE](#)].

- [4076] A. Klein et al., *Fourier domain gravitational waveforms for precessing eccentric binaries*, *Phys. Rev. D* **98** (2018) 104043 [[arXiv:1801.08542](#)] [[INSPIRE](#)].
- [4077] M. Vasuth, Z. Keresztes, A. Mihaly and L.A. Gergely, *Gravitational radiation reaction in compact binary systems: Contribution of the magnetic dipole — magnetic dipole interaction*, *Phys. Rev. D* **68** (2003) 124006 [[gr-qc/0308051](#)] [[INSPIRE](#)].
- [4078] Q. Henry, F. Larrouturou and C. Le Poncin-Lafitte, *Electromagnetic fields in compact binaries: A post-Newtonian approach*, *Phys. Rev. D* **108** (2023) 024020 [[arXiv:2303.17536](#)] [[INSPIRE](#)].
- [4079] N. Warburton et al., *Gravitational-Wave Energy Flux for Compact Binaries through Second Order in the Mass Ratio*, *Phys. Rev. Lett.* **127** (2021) 151102 [[arXiv:2107.01298](#)] [[INSPIRE](#)].
- [4080] T. Damour, *Gravitational radiation and the motion of compact bodies*, in the proceedings of the *Les Houches Summer School on Gravitational Radiation*, Les Houches, France, June 02–21 (1982) [[INSPIRE](#)].
- [4081] A. Bourgoin, C. Le Poncin-Lafitte, S. Mathis and M.-C. Angonin, *Dipolar magnetic fields in binaries and gravitational waves*, in the proceedings of the *Semaine de l'astrophysique française 2021*, Online, France, June 07–11 (2021) [[arXiv:2109.06611](#)] [[INSPIRE](#)].
- [4082] N. Warburton et al., *Comparison of 4.5PN and 2SF gravitational energy fluxes from quasicircular compact binaries*, [arXiv:2407.00366](#) [[INSPIRE](#)].
- [4083] E. Poisson, A. Pound and I. Vega, *The motion of point particles in curved spacetime*, *Living Rev. Rel.* **14** (2011) 7 [[arXiv:1102.0529](#)] [[INSPIRE](#)].
- [4084] A.I. Harte, *Motion in classical field theories and the foundations of the self-force problem*, *Fund. Theor. Phys.* **179** (2015) 327 [[arXiv:1405.5077](#)] [[INSPIRE](#)].
- [4085] A. Pound, *Motion of small objects in curved spacetimes: An introduction to gravitational self-force*, *Fund. Theor. Phys.* **179** (2015) 399 [[arXiv:1506.06245](#)] [[INSPIRE](#)].
- [4086] A. Pound and B. Wardell, *Black hole perturbation theory and gravitational self-force*, [arXiv:2101.04592](#) [[DOI:10.1007/978-981-15-4702-7\\_38-1](#)] [[INSPIRE](#)].
- [4087] Y. Mino, M. Sasaki and T. Tanaka, *Gravitational radiation reaction to a particle motion*, *Phys. Rev. D* **55** (1997) 3457 [[gr-qc/9606018](#)] [[INSPIRE](#)].
- [4088] T.C. Quinn and R.M. Wald, *An axiomatic approach to electromagnetic and gravitational radiation reaction of particles in curved space-time*, *Phys. Rev. D* **56** (1997) 3381 [[gr-qc/9610053](#)] [[INSPIRE](#)].
- [4089] S.L. Detweiler, *Radiation reaction and the selfforce for a point mass in general relativity*, *Phys. Rev. Lett.* **86** (2001) 1931 [[gr-qc/0011039](#)] [[INSPIRE](#)].
- [4090] S.L. Detweiler and B.F. Whiting, *Selfforce via a Green's function decomposition*, *Phys. Rev. D* **67** (2003) 024025 [[gr-qc/0202086](#)] [[INSPIRE](#)].
- [4091] S.E. Gralla and R.M. Wald, *A Rigorous Derivation of Gravitational Self-force*, *Class. Quant. Grav.* **25** (2008) 205009 [*Erratum ibid.* **28** (2011) 159501] [[arXiv:0806.3293](#)] [[INSPIRE](#)].
- [4092] A. Pound, *Self-consistent gravitational self-force*, *Phys. Rev. D* **81** (2010) 024023 [[arXiv:0907.5197](#)] [[INSPIRE](#)].
- [4093] S.E. Gralla, *Gauge and Averaging in Gravitational Self-force*, *Phys. Rev. D* **84** (2011) 084050 [[arXiv:1104.5635](#)] [[INSPIRE](#)].
- [4094] A.I. Harte, *Mechanics of extended masses in general relativity*, *Class. Quant. Grav.* **29** (2012) 055012 [[arXiv:1103.0543](#)] [[INSPIRE](#)].

- [4095] S. Detweiler, *Gravitational radiation reaction and second order perturbation theory*, *Phys. Rev. D* **85** (2012) 044048 [[arXiv:1107.2098](#)] [[INSPIRE](#)].
- [4096] A. Pound, *Second-order gravitational self-force*, *Phys. Rev. Lett.* **109** (2012) 051101 [[arXiv:1201.5089](#)] [[INSPIRE](#)].
- [4097] S.E. Gralla, *Second Order Gravitational Self Force*, *Phys. Rev. D* **85** (2012) 124011 [[arXiv:1203.3189](#)] [[INSPIRE](#)].
- [4098] A. Pound, *Nonlinear gravitational self-force: second-order equation of motion*, *Phys. Rev. D* **95** (2017) 104056 [[arXiv:1703.02836](#)] [[INSPIRE](#)].
- [4099] S.D. Upton and A. Pound, *Second-order gravitational self-force in a highly regular gauge*, *Phys. Rev. D* **103** (2021) 124016 [[arXiv:2101.11409](#)] [[INSPIRE](#)].
- [4100] T. Regge and J.A. Wheeler, *Stability of a Schwarzschild singularity*, *Phys. Rev.* **108** (1957) 1063 [[INSPIRE](#)].
- [4101] F.J. Zerilli, *Gravitational field of a particle falling in a schwarzschild geometry analyzed in tensor harmonics*, *Phys. Rev. D* **2** (1970) 2141 [[INSPIRE](#)].
- [4102] S.A. Teukolsky, *Perturbations of a rotating black hole. 1. Fundamental equations for gravitational electromagnetic and neutrino field perturbations*, *Astrophys. J.* **185** (1973) 635 [[INSPIRE](#)].
- [4103] R.M. Wald, *On perturbations of a Kerr black hole*, *J. Math. Phys.* **14** (1973) 1453 [[INSPIRE](#)].
- [4104] P.L. Chrzanowski, *Vector Potential and Metric Perturbations of a Rotating Black Hole*, *Phys. Rev. D* **11** (1975) 2042 [[INSPIRE](#)].
- [4105] R.M. Wald, *Construction of Solutions of Gravitational, Electromagnetic, Or Other Perturbation Equations from Solutions of Decoupled Equations*, *Phys. Rev. Lett.* **41** (1978) 203 [[INSPIRE](#)].
- [4106] L.S. Kegeles and J.M. Cohen, *Constructive procedure for perturbations of space-times*, *Phys. Rev. D* **19** (1979) 1641 [[INSPIRE](#)].
- [4107] M. Campanelli and C.O. Lousto, *Second order gauge invariant gravitational perturbations of a Kerr black hole*, *Phys. Rev. D* **59** (1999) 124022 [[gr-qc/9811019](#)] [[INSPIRE](#)].
- [4108] M. Sasaki and H. Tagoshi, *Analytic black hole perturbation approach to gravitational radiation*, *Living Rev. Rel.* **6** (2003) 6 [[gr-qc/0306120](#)] [[INSPIRE](#)].
- [4109] K. Martel and E. Poisson, *Gravitational perturbations of the Schwarzschild spacetime: A practical covariant and gauge-invariant formalism*, *Phys. Rev. D* **71** (2005) 104003 [[gr-qc/0502028](#)] [[INSPIRE](#)].
- [4110] L. Barack and C.O. Lousto, *Perturbations of Schwarzschild black holes in the Lorenz gauge: Formulation and numerical implementation*, *Phys. Rev. D* **72** (2005) 104026 [[gr-qc/0510019](#)] [[INSPIRE](#)].
- [4111] D. Brizuela, J.M. Martin-Garcia and M. Tiglio, *A Complete gauge-invariant formalism for arbitrary second-order perturbations of a Schwarzschild black hole*, *Phys. Rev. D* **80** (2009) 024021 [[arXiv:0903.1134](#)] [[INSPIRE](#)].
- [4112] S.R. Green, S. Hollands and P. Zimmerman, *Teukolsky formalism for nonlinear Kerr perturbations*, *Class. Quant. Grav.* **37** (2020) 075001 [[arXiv:1908.09095](#)] [[INSPIRE](#)].
- [4113] S.R. Dolan, C. Kavanagh and B. Wardell, *Gravitational Perturbations of Rotating Black Holes in Lorenz Gauge*, *Phys. Rev. Lett.* **128** (2022) 151101 [[arXiv:2108.06344](#)] [[INSPIRE](#)].

- [4114] A. Spiers, A. Pound and J. Moxon, *Second-order Teukolsky formalism in Kerr spacetime: Formulation and nonlinear source*, *Phys. Rev. D* **108** (2023) 064002 [[arXiv:2305.19332](#)] [[INSPIRE](#)].
- [4115] A. Spiers, A. Pound and B. Wardell, *Second-order perturbations of the Schwarzschild spacetime: Practical, covariant, and gauge-invariant formalisms*, *Phys. Rev. D* **110** (2024) 064030 [[arXiv:2306.17847](#)] [[INSPIRE](#)].
- [4116] A.J.K. Chua, M.L. Katz, N. Warburton and S.A. Hughes, *Rapid generation of fully relativistic extreme-mass-ratio-inspiral waveform templates for LISA data analysis*, *Phys. Rev. Lett.* **126** (2021) 051102 [[arXiv:2008.06071](#)] [[INSPIRE](#)].
- [4117] J. Miller and A. Pound, *Two-timescale evolution of extreme-mass-ratio inspirals: waveform generation scheme for quasicircular orbits in Schwarzschild spacetime*, *Phys. Rev. D* **103** (2021) 064048 [[arXiv:2006.11263](#)] [[INSPIRE](#)].
- [4118] S.A. Hughes et al., *Adiabatic waveforms for extreme mass-ratio inspirals via multivoice decomposition in time and frequency*, *Phys. Rev. D* **103** (2021) 104014 [*Erratum ibid.* **107** (2023) 089901] [[arXiv:2102.02713](#)] [[INSPIRE](#)].
- [4119] M.L. Katz et al., *Fast extreme-mass-ratio-inspiral waveforms: New tools for millihertz gravitational-wave data analysis*, *Phys. Rev. D* **104** (2021) 064047 [[arXiv:2104.04582](#)] [[INSPIRE](#)].
- [4120] S. Isoyama et al., *Adiabatic Waveforms from Extreme-Mass-Ratio Inspirals: An Analytical Approach*, *Phys. Rev. Lett.* **128** (2022) 231101 [[arXiv:2111.05288](#)] [[INSPIRE](#)].
- [4121] T. Hinderer and E.E. Flanagan, *Two timescale analysis of extreme mass ratio inspirals in Kerr. I. Orbital Motion*, *Phys. Rev. D* **78** (2008) 064028 [[arXiv:0805.3337](#)] [[INSPIRE](#)].
- [4122] M. Van De Meent and N. Warburton, *Fast Self-forced Inspirals*, *Class. Quant. Grav.* **35** (2018) 144003 [[arXiv:1802.05281](#)] [[INSPIRE](#)].
- [4123] W. Schmidt, *Celestial mechanics in Kerr space-time*, *Class. Quant. Grav.* **19** (2002) 2743 [[gr-qc/0202090](#)] [[INSPIRE](#)].
- [4124] Y. Mino, *Perturbative approach to an orbital evolution around a supermassive black hole*, *Phys. Rev. D* **67** (2003) 084027 [[gr-qc/0302075](#)] [[INSPIRE](#)].
- [4125] R. Fujita and W. Hikida, *Analytical solutions of bound timelike geodesic orbits in Kerr spacetime*, *Class. Quant. Grav.* **26** (2009) 135002 [[arXiv:0906.1420](#)] [[INSPIRE](#)].
- [4126] R. Grossman, J. Levin and G. Perez-Giz, *The harmonic structure of generic Kerr orbits*, *Phys. Rev. D* **85** (2012) 023012 [[arXiv:1105.5811](#)] [[INSPIRE](#)].
- [4127] L.V. Drummond and S.A. Hughes, *Precisely computing bound orbits of spinning bodies around black holes. I. General framework and results for nearly equatorial orbits*, *Phys. Rev. D* **105** (2022) 124040 [[arXiv:2201.13334](#)] [[INSPIRE](#)].
- [4128] L.V. Drummond and S.A. Hughes, *Precisely computing bound orbits of spinning bodies around black holes. II. Generic orbits*, *Phys. Rev. D* **105** (2022) 124041 [[arXiv:2201.13335](#)] [[INSPIRE](#)].
- [4129] V. Skoupy, G. Lukes-Gerakopoulos, L.V. Drummond and S.A. Hughes, *Asymptotic gravitational-wave fluxes from a spinning test body on generic orbits around a Kerr black hole*, *Phys. Rev. D* **108** (2023) 044041 [[arXiv:2303.16798](#)] [[INSPIRE](#)].

- [4130] V. Witzany and G.A. Piovano, *Analytic Solutions for the Motion of Spinning Particles near Spherically Symmetric Black Holes and Exotic Compact Objects*, *Phys. Rev. Lett.* **132** (2024) 171401 [[arXiv:2308.00021](#)] [[INSPIRE](#)].
- [4131] P.A. Sundararajan, G. Khanna, S.A. Hughes and S. Drasco, *Towards adiabatic waveforms for inspiral into Kerr black holes: II. Dynamical sources and generic orbits*, *Phys. Rev. D* **78** (2008) 024022 [[arXiv:0803.0317](#)] [[INSPIRE](#)].
- [4132] E. Barausse et al., *Modeling multipolar gravitational-wave emission from small mass-ratio mergers*, *Phys. Rev. D* **85** (2012) 024046 [[arXiv:1110.3081](#)] [[INSPIRE](#)].
- [4133] A. Taracchini, A. Buonanno, G. Khanna and S.A. Hughes, *Small mass plunging into a Kerr black hole: Anatomy of the inspiral-merger-ringdown waveforms*, *Phys. Rev. D* **90** (2014) 084025 [[arXiv:1404.1819](#)] [[INSPIRE](#)].
- [4134] N.E.M. Rifat, S.E. Field, G. Khanna and V. Varma, *Surrogate model for gravitational wave signals from comparable and large-mass-ratio black hole binaries*, *Phys. Rev. D* **101** (2020) 081502 [[arXiv:1910.10473](#)] [[INSPIRE](#)].
- [4135] T. Islam et al., *Surrogate model for gravitational wave signals from nonspinning, comparable-to large-mass-ratio black hole binaries built on black hole perturbation theory waveforms calibrated to numerical relativity*, *Phys. Rev. D* **106** (2022) 104025 [[arXiv:2204.01972](#)] [[INSPIRE](#)].
- [4136] W.H. Press and S.A. Teukolsky, *Perturbations of a Rotating Black Hole. II. Dynamical Stability of the Kerr Metric*, *Astrophys. J.* **185** (1973) 649 [[INSPIRE](#)].
- [4137] S.A. Teukolsky and W.H. Press, *Perturbations of a rotating black hole. III — Interaction of the hole with gravitational and electromagnetic radiation*, *Astrophys. J.* **193** (1974) 443 [[INSPIRE](#)].
- [4138] D.V. Gal'tsov, *Radiation reaction in the Kerr gravitational field*, *J. Phys. A* **15** (1982) 3737 [[INSPIRE](#)].
- [4139] T. Nakamura, K. Oohara and Y. Kojima, *General Relativistic Collapse to Black Holes and Gravitational Waves from Black Holes*, *Prog. Theor. Phys. Suppl.* **90** (1987) 1 [[INSPIRE](#)].
- [4140] C. Cutler, D. Kennefick and E. Poisson, *Gravitational radiation reaction for bound motion around a Schwarzschild black hole*, *Phys. Rev. D* **50** (1994) 3816 [[INSPIRE](#)].
- [4141] H. Tagoshi, *PostNewtonian expansion of gravitational waves from a particle in slightly eccentric orbit around a rotating black hole*, *Prog. Theor. Phys.* **93** (1995) 307 [[INSPIRE](#)].
- [4142] S. Mano, H. Suzuki and E. Takasugi, *Analytic solutions of the Teukolsky equation and their low frequency expansions*, *Prog. Theor. Phys.* **95** (1996) 1079 [[gr-qc/9603020](#)] [[INSPIRE](#)].
- [4143] Y. Mino et al., *Black hole perturbation: Chapter 1*, *Prog. Theor. Phys. Suppl.* **128** (1997) 1 [[gr-qc/9712057](#)] [[INSPIRE](#)].
- [4144] S.A. Hughes, *The evolution of circular, nonequatorial orbits of Kerr black holes due to gravitational wave emission*, *Phys. Rev. D* **61** (2000) 084004 [[Erratum ibid.](#) **63** (2001) 049902] [[Erratum ibid.](#) **65** (2002) 069902] [[Erratum ibid.](#) **67** (2003) 089901] [[Erratum ibid.](#) **78** (2008) 109902] [[Erratum ibid.](#) **88** (2013) 109902] [[Erratum ibid.](#) **90** (2014) 109904] [[gr-qc/9910091](#)] [[INSPIRE](#)].
- [4145] L.S. Finn and K.S. Thorne, *Gravitational waves from a compact star in a circular, inspiral orbit, in the equatorial plane of a massive, spinning black hole, as observed by LISA*, *Phys. Rev. D* **62** (2000) 124021 [[gr-qc/0007074](#)] [[INSPIRE](#)].

- [4146] K. Glampedakis and D. Kennefick, *Zoom and whirl: Eccentric equatorial orbits around spinning black holes and their evolution under gravitational radiation reaction*, *Phys. Rev. D* **66** (2002) 044002 [[gr-qc/0203086](#)] [[INSPIRE](#)].
- [4147] K. Martel, *Gravitational wave forms from a point particle orbiting a Schwarzschild black hole*, *Phys. Rev. D* **69** (2004) 044025 [[gr-qc/0311017](#)] [[INSPIRE](#)].
- [4148] E. Poisson, *Absorption of mass and angular momentum by a black hole: Time-domain formalisms for gravitational perturbations, and the small-hole / slow-motion approximation*, *Phys. Rev. D* **70** (2004) 084044 [[gr-qc/0407050](#)] [[INSPIRE](#)].
- [4149] S. Drasco, E.E. Flanagan and S.A. Hughes, *Computing inspirals in Kerr in the adiabatic regime. I. The Scalar case*, *Class. Quant. Grav.* **22** (2005) S801 [[gr-qc/0505075](#)] [[INSPIRE](#)].
- [4150] S. Drasco and S.A. Hughes, *Gravitational wave snapshots of generic extreme mass ratio inspirals*, *Phys. Rev. D* **73** (2006) 024027 [Erratum *ibid.* **88** (2013) 109905] [[gr-qc/0509101](#)] [[INSPIRE](#)].
- [4151] N. Sago, T. Tanaka, W. Hikida and H. Nakano, *Adiabatic radiation reaction to the orbits in Kerr spacetime*, *Prog. Theor. Phys.* **114** (2005) 509 [[gr-qc/0506092](#)] [[INSPIRE](#)].
- [4152] N. Sago et al., *The adiabatic evolution of orbital parameters in the Kerr spacetime*, *Prog. Theor. Phys.* **115** (2006) 873 [[gr-qc/0511151](#)] [[INSPIRE](#)].
- [4153] Y. Mino, *Self-force in the radiation reaction formula*, *Prog. Theor. Phys.* **113** (2005) 733 [[gr-qc/0506003](#)] [[INSPIRE](#)].
- [4154] S.A. Hughes, S. Drasco, E.E. Flanagan and J. Franklin, *Gravitational radiation reaction and inspiral waveforms in the adiabatic limit*, *Phys. Rev. Lett.* **94** (2005) 221101 [[gr-qc/0504015](#)] [[INSPIRE](#)].
- [4155] P.A. Sundararajan, G. Khanna and S.A. Hughes, *Towards adiabatic waveforms for inspiral into Kerr black holes. I. A new model of the source for the time domain perturbation equation*, *Phys. Rev. D* **76** (2007) 104005 [[gr-qc/0703028](#)] [[INSPIRE](#)].
- [4156] K. Ganz et al., *Adiabatic Evolution of Three ‘Constants’ of Motion for Greatly Inclined Orbits in Kerr Spacetime*, *Prog. Theor. Phys.* **117** (2007) 1041 [[gr-qc/0702054](#)] [[INSPIRE](#)].
- [4157] R. Fujita, W. Hikida and H. Tagoshi, *An Efficient Numerical Method for Computing Gravitational Waves Induced by a Particle Moving on Eccentric Inclined Orbits around a Kerr Black Hole*, *Prog. Theor. Phys.* **121** (2009) 843 [[arXiv:0904.3810](#)] [[INSPIRE](#)].
- [4158] R. Fujita and B.R. Iyer, *Spherical harmonic modes of 5.5 post-Newtonian gravitational wave polarisations and associated factorised resummed waveforms for a particle in circular orbit around a Schwarzschild black hole*, *Phys. Rev. D* **82** (2010) 044051 [[arXiv:1005.2266](#)] [[INSPIRE](#)].
- [4159] Y. Pan et al., *Post-Newtonian factorized multipolar waveforms for spinning, non-precessing black-hole binaries*, *Phys. Rev. D* **83** (2011) 064003 [Erratum *ibid.* **87** (2013) 109901] [[arXiv:1006.0431](#)] [[INSPIRE](#)].
- [4160] A. Zenginoglu and G. Khanna, *Null infinity waveforms from extreme-mass-ratio inspirals in Kerr spacetime*, *Phys. Rev. X* **1** (2011) 021017 [[arXiv:1108.1816](#)] [[INSPIRE](#)].
- [4161] R. Fujita, *Gravitational Waves from a Particle in Circular Orbits around a Schwarzschild Black Hole to the 22nd Post-Newtonian Order*, *Prog. Theor. Phys.* **128** (2012) 971 [[arXiv:1211.5535](#)] [[INSPIRE](#)].

- [4162] S. Isoyama et al., *Evolution of the Carter constant for resonant inspirals into a Kerr black hole: I. The scalar case*, *PTEP* **2013** (2013) 063E01 [[arXiv:1302.4035](#)] [[INSPIRE](#)].
- [4163] R. Fujita, *Gravitational Waves from a Particle in Circular Orbits around a Rotating Black Hole to the 11th Post-Newtonian Order*, *PTEP* **2015** (2015) 033E01 [[arXiv:1412.5689](#)] [[INSPIRE](#)].
- [4164] A.G. Shah, *Gravitational-wave flux for a particle orbiting a Kerr black hole to 20th post-Newtonian order: a numerical approach*, *Phys. Rev. D* **90** (2014) 044025 [[arXiv:1403.2697](#)] [[INSPIRE](#)].
- [4165] N. Sago and R. Fujita, *Calculation of radiation reaction effect on orbital parameters in Kerr spacetime*, *PTEP* **2015** (2015) 073E03 [[arXiv:1505.01600](#)] [[INSPIRE](#)].
- [4166] S.E. Gralla, S.A. Hughes and N. Warburton, *Inspiral into Gargantua*, *Class. Quant. Grav.* **33** (2016) 155002 [*Erratum ibid.* **37** (2020) 109501] [[arXiv:1603.01221](#)] [[INSPIRE](#)].
- [4167] S. Isoyama et al., “*Flux-balance formulae*” for extreme mass-ratio inspirals, *PTEP* **2019** (2019) 013E01 [[arXiv:1809.11118](#)] [[INSPIRE](#)].
- [4168] O. Burke, J.R. Gair and J. Simón, *Transition from Inspiral to Plunge: A Complete Near-Extremal Trajectory and Associated Waveform*, *Phys. Rev. D* **101** (2020) 064026 [[arXiv:1909.12846](#)] [[INSPIRE](#)].
- [4169] R. Fujita and M. Shibata, *Extreme mass ratio inspirals on the equatorial plane in the adiabatic order*, *Phys. Rev. D* **102** (2020) 064005 [[arXiv:2008.13554](#)] [[INSPIRE](#)].
- [4170] C. Munna, C.R. Evans, S. Hopper and E. Forseth, *Determination of new coefficients in the angular momentum and energy fluxes at infinity to 9PN order for eccentric Schwarzschild extreme-mass-ratio inspirals using mode-by-mode fitting*, *Phys. Rev. D* **102** (2020) 024047 [[arXiv:2005.03044](#)] [[INSPIRE](#)].
- [4171] C. Munna and C.R. Evans, *Eccentric-orbit extreme-mass-ratio-inspiral radiation II: 1PN correction to leading-logarithm and subleading-logarithm flux sequences and the entire perturbative 4PN flux*, *Phys. Rev. D* **102** (2020) 104006 [[arXiv:2009.01254](#)] [[INSPIRE](#)].
- [4172] L. Barack and A. Ori, *Mode sum regularization approach for the selfforce in black hole space-time*, *Phys. Rev. D* **61** (2000) 061502 [[gr-qc/9912010](#)] [[INSPIRE](#)].
- [4173] L. Barack et al., *Calculating the gravitational selfforce in Schwarzschild space-time*, *Phys. Rev. Lett.* **88** (2002) 091101 [[gr-qc/0111001](#)] [[INSPIRE](#)].
- [4174] L. Barack and A. Ori, *Regularization parameters for the selfforce in Schwarzschild space-time. 2. Gravitational and electromagnetic cases*, *Phys. Rev. D* **67** (2003) 024029 [[gr-qc/0209072](#)] [[INSPIRE](#)].
- [4175] L. Barack and A. Ori, *Gravitational selfforce on a particle orbiting a Kerr black hole*, *Phys. Rev. Lett.* **90** (2003) 111101 [[gr-qc/0212103](#)] [[INSPIRE](#)].
- [4176] L. Barack and N. Sago, *Gravitational self force on a particle in circular orbit around a Schwarzschild black hole*, *Phys. Rev. D* **75** (2007) 064021 [[gr-qc/0701069](#)] [[INSPIRE](#)].
- [4177] L. Barack, D.A. Golbourn and N. Sago, *m-Mode Regularization Scheme for the Self Force in Kerr Spacetime*, *Phys. Rev. D* **76** (2007) 124036 [[arXiv:0709.4588](#)] [[INSPIRE](#)].
- [4178] I. Vega and S.L. Detweiler, *Regularization of fields for self-force problems in curved spacetime: Foundations and a time-domain application*, *Phys. Rev. D* **77** (2008) 084008 [[arXiv:0712.4405](#)] [[INSPIRE](#)].

- [4179] M. Casals, S.R. Dolan, A.C. Ottewill and B. Wardell, *Self-Force Calculations with Matched Expansions and Quasinormal Mode Sums*, *Phys. Rev. D* **79** (2009) 124043 [[arXiv:0903.0395](#)] [[INSPIRE](#)].
- [4180] L. Barack and N. Sago, *Gravitational self-force on a particle in eccentric orbit around a Schwarzschild black hole*, *Phys. Rev. D* **81** (2010) 084021 [[arXiv:1002.2386](#)] [[INSPIRE](#)].
- [4181] T.S. Keidl et al., *Gravitational Self-force in a Radiation Gauge*, *Phys. Rev. D* **82** (2010) 124012 [*Erratum ibid.* **90** (2014) 109902] [[arXiv:1004.2276](#)] [[INSPIRE](#)].
- [4182] A.G. Shah et al., *Conservative, gravitational self-force for a particle in circular orbit around a Schwarzschild black hole in a Radiation Gauge*, *Phys. Rev. D* **83** (2011) 064018 [[arXiv:1009.4876](#)] [[INSPIRE](#)].
- [4183] S.R. Dolan and L. Barack, *Self-force via  $m$ -mode regularization and  $2+1D$  evolution: III. Gravitational field on Schwarzschild spacetime*, *Phys. Rev. D* **87** (2013) 084066 [[arXiv:1211.4586](#)] [[INSPIRE](#)].
- [4184] S. Akcay, N. Warburton and L. Barack, *Frequency-domain algorithm for the Lorenz-gauge gravitational self-force*, *Phys. Rev. D* **88** (2013) 104009 [[arXiv:1308.5223](#)] [[INSPIRE](#)].
- [4185] A. Pound, C. Merlin and L. Barack, *Gravitational self-force from radiation-gauge metric perturbations*, *Phys. Rev. D* **89** (2014) 024009 [[arXiv:1310.1513](#)] [[INSPIRE](#)].
- [4186] C. Merlin and A.G. Shah, *Self-force from reconstructed metric perturbations: numerical implementation in Schwarzschild spacetime*, *Phys. Rev. D* **91** (2015) 024005 [[arXiv:1410.2998](#)] [[INSPIRE](#)].
- [4187] T. Osburn, E. Forseth, C.R. Evans and S. Hopper, *Lorenz gauge gravitational self-force calculations of eccentric binaries using a frequency domain procedure*, *Phys. Rev. D* **90** (2014) 104031 [[arXiv:1409.4419](#)] [[INSPIRE](#)].
- [4188] S. Isoyama et al., *Gravitational Self-Force Correction to the Innermost Stable Circular Equatorial Orbit of a Kerr Black Hole*, *Phys. Rev. Lett.* **113** (2014) 161101 [[arXiv:1404.6133](#)] [[INSPIRE](#)].
- [4189] B. Wardell et al., *Self-force via Green functions and worldline integration*, *Phys. Rev. D* **89** (2014) 084021 [[arXiv:1401.1506](#)] [[INSPIRE](#)].
- [4190] B. Wardell and N. Warburton, *Applying the effective-source approach to frequency-domain self-force calculations: Lorenz-gauge gravitational perturbations*, *Phys. Rev. D* **92** (2015) 084019 [[arXiv:1505.07841](#)] [[INSPIRE](#)].
- [4191] M. van de Meent and A.G. Shah, *Metric perturbations produced by eccentric equatorial orbits around a Kerr black hole*, *Phys. Rev. D* **92** (2015) 064025 [[arXiv:1506.04755](#)] [[INSPIRE](#)].
- [4192] M. van de Meent, *Gravitational self-force on eccentric equatorial orbits around a Kerr black hole*, *Phys. Rev. D* **94** (2016) 044034 [[arXiv:1606.06297](#)] [[INSPIRE](#)].
- [4193] C. Merlin et al., *Completion of metric reconstruction for a particle orbiting a Kerr black hole*, *Phys. Rev. D* **94** (2016) 104066 [[arXiv:1609.01227](#)] [[INSPIRE](#)].
- [4194] M. van De Meent, *The mass and angular momentum of reconstructed metric perturbations*, *Class. Quant. Grav.* **34** (2017) 124003 [[arXiv:1702.00969](#)] [[INSPIRE](#)].
- [4195] M. van de Meent, *Gravitational self-force on generic bound geodesics in Kerr spacetime*, *Phys. Rev. D* **97** (2018) 104033 [[arXiv:1711.09607](#)] [[INSPIRE](#)].
- [4196] N. Warburton et al., *Evolution of inspiral orbits around a Schwarzschild black hole*, *Phys. Rev. D* **85** (2012) 061501 [[arXiv:1111.6908](#)] [[INSPIRE](#)].

- [4197] K.A. Lackeos and L.M. Burko, *Self-forced gravitational waveforms for Extreme and Intermediate mass ratio inspirals*, *Phys. Rev. D* **86** (2012) 084055 [[arXiv:1206.1452](#)] [[INSPIRE](#)].
- [4198] T. Osburn, N. Warburton and C.R. Evans, *Highly eccentric inspirals into a black hole*, *Phys. Rev. D* **93** (2016) 064024 [[arXiv:1511.01498](#)] [[INSPIRE](#)].
- [4199] P. Lynch, M. van de Meent and N. Warburton, *Eccentric self-forced inspirals into a rotating black hole*, *Class. Quant. Grav.* **39** (2022) 145004 [[arXiv:2112.05651](#)] [[INSPIRE](#)].
- [4200] P. Lynch, M. van de Meent and N. Warburton, *Self-forced inspirals with spin-orbit precession*, *Phys. Rev. D* **109** (2024) 084072 [[arXiv:2305.10533](#)] [[INSPIRE](#)].
- [4201] V. Toomani et al., *New metric reconstruction scheme for gravitational self-force calculations*, *Class. Quant. Grav.* **39** (2022) 015019 [[arXiv:2108.04273](#)] [[INSPIRE](#)].
- [4202] R. Panosso Macedo et al., *Hyperboloidal method for frequency-domain self-force calculations*, *Phys. Rev. D* **105** (2022) 104033 [[arXiv:2202.01794](#)] [[INSPIRE](#)].
- [4203] L. Barack and P. Giudice, *Time-domain metric reconstruction for self-force applications*, *Phys. Rev. D* **95** (2017) 104033 [[arXiv:1702.04204](#)] [[INSPIRE](#)].
- [4204] S.A. Hughes, *(Sort of) testing relativity with extreme mass ratio inspirals*, *AIP Conf. Proc.* **873** (2006) 233 [[gr-qc/0608140](#)] [[INSPIRE](#)].
- [4205] O. Long and L. Barack, *Time-domain metric reconstruction for hyperbolic scattering*, *Phys. Rev. D* **104** (2021) 024014 [[arXiv:2105.05630](#)] [[INSPIRE](#)].
- [4206] P. Canizares and C.F. Sopuerta, *Simulations of Extreme-Mass-Ratio Inspirals Using Pseudospectral Methods*, *J. Phys. Conf. Ser.* **154** (2009) 012053 [[arXiv:0811.0294](#)] [[INSPIRE](#)].
- [4207] P. Canizares and C.F. Sopuerta, *Modelling Extreme-Mass-Ratio Inspirals using Pseudospectral Methods*, in the proceedings of the *12th Marcel Grossmann Meeting on General Relativity*, Paris, France, July 12–18 (2009) [[DOI:10.1142/9789814374552\\_0072](#)] [[arXiv:1001.4697](#)] [[INSPIRE](#)].
- [4208] P. Canizares and C.F. Sopuerta, *Time-domain modelling of Extreme-Mass-Ratio Inspirals for the Laser Interferometer Space Antenna*, *J. Phys. Conf. Ser.* **314** (2011) 012075 [[arXiv:1103.2149](#)] [[INSPIRE](#)].
- [4209] S.E. Field, J.S. Hesthaven and S.R. Lau, *Discontinuous Galerkin method for computing gravitational waveforms from extreme mass ratio binaries*, *Class. Quant. Grav.* **26** (2009) 165010 [[arXiv:0902.1287](#)] [[INSPIRE](#)].
- [4210] P. Diener, I. Vega, B. Wardell and S. Detweiler, *Self-consistent orbital evolution of a particle around a Schwarzschild black hole*, *Phys. Rev. Lett.* **108** (2012) 191102 [[arXiv:1112.4821](#)] [[INSPIRE](#)].
- [4211] C. Markakis, M.F. O’Boyle, P.D. Brubeck and L. Barack, *Discontinuous collocation methods and gravitational self-force applications*, *Class. Quant. Grav.* **38** (2021) 075031 [[arXiv:1406.4865](#)] [[INSPIRE](#)].
- [4212] L.J.G. Da Silva et al., *Hyperboloidal discontinuous time-symmetric numerical algorithm with higher order jumps for gravitational self-force computations in the time domain*, [arXiv:2306.13153](#) [[INSPIRE](#)].
- [4213] M.F. O’Boyle et al., *Conservative Evolution of Black Hole Perturbations with Time-Symmetric Numerical Methods*, [arXiv:2210.02550](#) [[INSPIRE](#)].

- [4214] C. Markakis, S. Bray and A. Zenginoğlu, *Symmetric integration of the 1+1 Teukolsky equation on hyperboloidal foliations of Kerr spacetimes*, [arXiv:2303.08153](#) [INSPIRE].
- [4215] M.F. O’Boyle and C. Markakis, *Discontinuous collocation and symmetric integration methods for distributionally-sourced hyperboloidal partial differential equations*, [arXiv:2308.02385](#) [INSPIRE].
- [4216] M. Casals, S. Dolan, A.C. Ottewill and B. Wardell, *Self-Force and Green Function in Schwarzschild spacetime via Quasinormal Modes and Branch Cut*, *Phys. Rev. D* **88** (2013) 044022 [[arXiv:1306.0884](#)] [INSPIRE].
- [4217] M. Casals, B.C. Nolan, A.C. Ottewill and B. Wardell, *Regularized calculation of the retarded Green function in a Schwarzschild spacetime*, *Phys. Rev. D* **100** (2019) 104037 [[arXiv:1910.02567](#)] [INSPIRE].
- [4218] H. Yang, F. Zhang, A. Zimmerman and Y. Chen, *Scalar Green function of the Kerr spacetime*, *Phys. Rev. D* **89** (2014) 064014 [[arXiv:1311.3380](#)] [INSPIRE].
- [4219] C. O’Toole, A. Ottewill and B. Wardell, *Characteristic formulation of the Regge-Wheeler and Zerilli Green functions*, *Phys. Rev. D* **103** (2021) 124022 [[arXiv:2010.15818](#)] [INSPIRE].
- [4220] E. Rosenthal, *Second-order gravitational self-force*, *Phys. Rev. D* **74** (2006) 084018 [[gr-qc/0609069](#)] [INSPIRE].
- [4221] A. Pound, *Nonlinear gravitational self-force. I. Field outside a small body*, *Phys. Rev. D* **86** (2012) 084019 [[arXiv:1206.6538](#)] [INSPIRE].
- [4222] A. Pound, *Gauge and motion in perturbation theory*, *Phys. Rev. D* **92** (2015) 044021 [[arXiv:1506.02894](#)] [INSPIRE].
- [4223] A. Pound and J. Miller, *Practical, covariant puncture for second-order self-force calculations*, *Phys. Rev. D* **89** (2014) 104020 [[arXiv:1403.1843](#)] [INSPIRE].
- [4224] N. Warburton and B. Wardell, *Applying the effective-source approach to frequency-domain self-force calculations*, *Phys. Rev. D* **89** (2014) 044046 [[arXiv:1311.3104](#)] [INSPIRE].
- [4225] A. Pound, *Second-order perturbation theory: problems on large scales*, *Phys. Rev. D* **92** (2015) 104047 [[arXiv:1510.05172](#)] [INSPIRE].
- [4226] J. Miller, B. Wardell and A. Pound, *Second-order perturbation theory: the problem of infinite mode coupling*, *Phys. Rev. D* **94** (2016) 104018 [[arXiv:1608.06783](#)] [INSPIRE].
- [4227] J. Miller, *The second-order gravitational self-force*, Ph.D. thesis, University of Southampton, Southampton, U.K. (2017), <http://eprints.soton.ac.uk/id/eprint/418264>.
- [4228] L. Durkan and N. Warburton, *Slow evolution of the metric perturbation due to a quasicircular inspiral into a Schwarzschild black hole*, *Phys. Rev. D* **106** (2022) 084023 [[arXiv:2206.08179](#)] [INSPIRE].
- [4229] A. Pound, B. Wardell, N. Warburton and J. Miller, *Second-Order Self-Force Calculation of Gravitational Binding Energy in Compact Binaries*, *Phys. Rev. Lett.* **124** (2020) 021101 [[arXiv:1908.07419](#)] [INSPIRE].
- [4230] J. Mathews, A. Pound and B. Wardell, *Self-force calculations with a spinning secondary*, *Phys. Rev. D* **105** (2022) 084031 [[arXiv:2112.13069](#)] [INSPIRE].
- [4231] Y. Mino, M. Shibata and T. Tanaka, *Gravitational waves induced by a spinning particle falling into a rotating black hole*, *Phys. Rev. D* **53** (1996) 622 [Erratum *ibid.* **59** (1999) 047502] [INSPIRE].

- [4232] T. Tanaka, Y. Mino, M. Sasaki and M. Shibata, *Gravitational waves from a spinning particle in circular orbits around a rotating black hole*, *Phys. Rev. D* **54** (1996) 3762 [[gr-qc/9602038](#)] [[INSPIRE](#)].
- [4233] W.-B. Han, *Gravitational Radiations from a Spinning Compact Object around a supermassive Kerr black hole in circular orbit*, *Phys. Rev. D* **82** (2010) 084013 [[arXiv:1008.3324](#)] [[INSPIRE](#)].
- [4234] E. Harms, G. Lukes-Gerakopoulos, S. Bernuzzi and A. Nagar, *Asymptotic gravitational wave fluxes from a spinning particle in circular equatorial orbits around a rotating black hole*, *Phys. Rev. D* **93** (2016) 044015 [*Addendum ibid.* **100** (2019) 129901] [[arXiv:1510.05548](#)] [[INSPIRE](#)].
- [4235] E. Harms, G. Lukes-Gerakopoulos, S. Bernuzzi and A. Nagar, *Spinning test body orbiting around a Schwarzschild black hole: Circular dynamics and gravitational-wave fluxes*, *Phys. Rev. D* **94** (2016) 104010 [[arXiv:1609.00356](#)] [[INSPIRE](#)].
- [4236] N. Warburton, T. Osburn and C.R. Evans, *Evolution of small-mass-ratio binaries with a spinning secondary*, *Phys. Rev. D* **96** (2017) 084057 [[arXiv:1708.03720](#)] [[INSPIRE](#)].
- [4237] G. Lukes-Gerakopoulos, E. Harms, S. Bernuzzi and A. Nagar, *Spinning test-body orbiting around a Kerr black hole: circular dynamics and gravitational-wave fluxes*, *Phys. Rev. D* **96** (2017) 064051 [[arXiv:1707.07537](#)] [[INSPIRE](#)].
- [4238] A. Nagar et al., *Factorization and resummation: A new paradigm to improve gravitational wave amplitudes. III: the spinning test-body terms*, *Phys. Rev. D* **100** (2019) 104056 [[arXiv:1907.12233](#)] [[INSPIRE](#)].
- [4239] S. Akcay et al., *Dissipation in extreme-mass ratio binaries with a spinning secondary*, *Phys. Rev. D* **102** (2020) 064013 [[arXiv:1912.09461](#)] [[INSPIRE](#)].
- [4240] O. Zelenka, G. Lukes-Gerakopoulos, V. Witzany and O. Kopáček, *Growth of resonances and chaos for a spinning test particle in the Schwarzschild background*, *Phys. Rev. D* **101** (2020) 024037 [[arXiv:1911.00414](#)] [[INSPIRE](#)].
- [4241] V. Witzany, *Hamilton-Jacobi equation for spinning particles near black holes*, *Phys. Rev. D* **100** (2019) 104030 [[arXiv:1903.03651](#)] [[INSPIRE](#)].
- [4242] G.A. Piovano, A. Maselli and P. Pani, *Extreme mass ratio inspirals with spinning secondary: a detailed study of equatorial circular motion*, *Phys. Rev. D* **102** (2020) 024041 [[arXiv:2004.02654](#)] [[INSPIRE](#)].
- [4243] G.A. Piovano, R. Brito, A. Maselli and P. Pani, *Assessing the detectability of the secondary spin in extreme mass-ratio inspirals with fully relativistic numerical waveforms*, *Phys. Rev. D* **104** (2021) 124019 [[arXiv:2105.07083](#)] [[INSPIRE](#)].
- [4244] V. Skoupý and G. Lukes-Gerakopoulos, *Spinning test body orbiting around a Kerr black hole: Eccentric equatorial orbits and their asymptotic gravitational-wave fluxes*, *Phys. Rev. D* **103** (2021) 104045 [[arXiv:2102.04819](#)] [[INSPIRE](#)].
- [4245] V. Skoupý and G. Lukes-Gerakopoulos, *Adiabatic equatorial inspirals of a spinning body into a Kerr black hole*, *Phys. Rev. D* **105** (2022) 084033 [[arXiv:2201.07044](#)] [[INSPIRE](#)].
- [4246] J. Steinhoff and D. Puetzfeld, *Influence of internal structure on the motion of test bodies in extreme mass ratio situations*, *Phys. Rev. D* **86** (2012) 044033 [[arXiv:1205.3926](#)] [[INSPIRE](#)].
- [4247] M. Rahman and A. Bhattacharyya, *Prospects for determining the nature of the secondaries of extreme mass-ratio inspirals using the spin-induced quadrupole deformation*, *Phys. Rev. D* **107** (2023) 024006 [[arXiv:2112.13869](#)] [[INSPIRE](#)].

- [4248] L. Xu et al., *Distinguishing Compact Objects in Extreme-Mass-Ratio Inspirals by Gravitational Waves*, *Universe* **11** (2025) 18 [[arXiv:2209.01110](#)] [[INSPIRE](#)].
- [4249] T. Tanaka, *Gravitational radiation reaction*, *Prog. Theor. Phys. Suppl.* **163** (2006) 120 [[gr-qc/0508114](#)] [[INSPIRE](#)].
- [4250] J. Levin and G. Perez-Giz, *A Periodic Table for Black Hole Orbits*, *Phys. Rev. D* **77** (2008) 103005 [[arXiv:0802.0459](#)] [[INSPIRE](#)].
- [4251] T.A. Apostolatos, G. Lukes-Gerakopoulos and G. Contopoulos, *How to Observe a Non-Kerr Spacetime Using Gravitational Waves*, *Phys. Rev. Lett.* **103** (2009) 111101 [[arXiv:0906.0093](#)] [[INSPIRE](#)].
- [4252] E.E. Flanagan and T. Hinderer, *Transient resonances in the inspirals of point particles into black holes*, *Phys. Rev. Lett.* **109** (2012) 071102 [[arXiv:1009.4923](#)] [[INSPIRE](#)].
- [4253] J. Brink, M. Geyer and T. Hinderer, *Orbital resonances around Black holes*, *Phys. Rev. Lett.* **114** (2015) 081102 [[arXiv:1304.0330](#)] [[INSPIRE](#)].
- [4254] U. Ruangsri and S.A. Hughes, *Census of transient orbital resonances encountered during binary inspiral*, *Phys. Rev. D* **89** (2014) 084036 [[arXiv:1307.6483](#)] [[INSPIRE](#)].
- [4255] J. Brink, M. Geyer and T. Hinderer, *Astrophysics of resonant orbits in the Kerr metric*, *Phys. Rev. D* **91** (2015) 083001 [[arXiv:1501.07728](#)] [[INSPIRE](#)].
- [4256] C.P.L. Berry, R.H. Cole, P. Cañizares and J.R. Gair, *Importance of transient resonances in extreme-mass-ratio inspirals*, *Phys. Rev. D* **94** (2016) 124042 [[arXiv:1608.08951](#)] [[INSPIRE](#)].
- [4257] D.P. Mihaylov and J.R. Gair, *Transition of EMRIs through resonance: corrections to higher order in the on-resonance flux modification*, *J. Math. Phys.* **58** (2017) 112501 [[arXiv:1706.06639](#)] [[INSPIRE](#)].
- [4258] G. Lukes-Gerakopoulos and V. Witzany, *Non-linear effects in EMRI dynamics and their imprints on gravitational waves*, [arXiv:2103.06724](#) [[DOI:10.1007/978-981-15-4702-7\\_42-1](#)] [[INSPIRE](#)].
- [4259] J. Gair, N. Yunes and C.M. Bender, *Resonances in Extreme Mass-Ratio Inspirals: Asymptotic and Hyperasymptotic Analysis*, *J. Math. Phys.* **53** (2012) 032503 [[arXiv:1111.3605](#)] [[INSPIRE](#)].
- [4260] É.E. Flanagan, S.A. Hughes and U. Ruangsri, *Resonantly enhanced and diminished strong-field gravitational-wave fluxes*, *Phys. Rev. D* **89** (2014) 084028 [[arXiv:1208.3906](#)] [[INSPIRE](#)].
- [4261] M. van de Meent, *Conditions for Sustained Orbital Resonances in Extreme Mass Ratio Inspirals*, *Phys. Rev. D* **89** (2014) 084033 [[arXiv:1311.4457](#)] [[INSPIRE](#)].
- [4262] A.G.M. Lewis, A. Zimmerman and H.P. Pfeiffer, *Fundamental frequencies and resonances from eccentric and precessing binary black hole inspirals*, *Class. Quant. Grav.* **34** (2017) 124001 [[arXiv:1611.03418](#)] [[INSPIRE](#)].
- [4263] Z. Nasipak and C.R. Evans, *Resonant self-force effects in extreme-mass-ratio binaries: A scalar model*, *Phys. Rev. D* **104** (2021) 084011 [[arXiv:2105.15188](#)] [[INSPIRE](#)].
- [4264] Z. Nasipak, *Adiabatic evolution due to the conservative scalar self-force during orbital resonances*, *Phys. Rev. D* **106** (2022) 064042 [[arXiv:2207.02224](#)] [[INSPIRE](#)].
- [4265] P. Gupta et al., *Modeling transient resonances in extreme-mass-ratio inspirals*, *Phys. Rev. D* **106** (2022) 104001 [[arXiv:2205.04808](#)] [[INSPIRE](#)].
- [4266] A. Buonanno and T. Damour, *Transition from inspiral to plunge in binary black hole coalescences*, *Phys. Rev. D* **62** (2000) 064015 [[gr-qc/0001013](#)] [[INSPIRE](#)].

- [4267] A. Ori and K.S. Thorne, *The transition from inspiral to plunge for a compact body in a circular equatorial orbit around a massive, spinning black hole*, *Phys. Rev. D* **62** (2000) 124022 [[gr-qc/0003032](#)] [[INSPIRE](#)].
- [4268] P.A. Sundararajan, *The transition from adiabatic inspiral to geodesic plunge for a compact object around a massive Kerr black hole: Generic orbits*, *Phys. Rev. D* **77** (2008) 124050 [[arXiv:0803.4482](#)] [[INSPIRE](#)].
- [4269] M. Kesden, *Transition from adiabatic inspiral to plunge into a spinning black hole*, *Phys. Rev. D* **83** (2011) 104011 [[arXiv:1101.3749](#)] [[INSPIRE](#)].
- [4270] A. Apte and S.A. Hughes, *Exciting black hole modes via misaligned coalescences: I. Inspirals, transition, and plunge trajectories using a generalized Ori-Thorne procedure*, *Phys. Rev. D* **100** (2019) 084031 [[arXiv:1901.05901](#)] [[INSPIRE](#)].
- [4271] G. Compère, K. Fransen and C. Jonas, *Transition from inspiral to plunge into a highly spinning black hole*, *Class. Quant. Grav.* **37** (2020) 095013 [[arXiv:1909.12848](#)] [[INSPIRE](#)].
- [4272] G. Compère and L. Küchler, *Asymptotically matched quasi-circular inspiral and transition-to-plunge in the small mass ratio expansion*, *SciPost Phys.* **13** (2022) 043 [[arXiv:2112.02114](#)] [[INSPIRE](#)].
- [4273] A. Folacci and M. Ould El Hadj, *Multipolar gravitational waveforms and ringdowns generated during the plunge from the innermost stable circular orbit into a Schwarzschild black hole*, *Phys. Rev. D* **98** (2018) 084008 [[arXiv:1806.01577](#)] [[INSPIRE](#)].
- [4274] B. Rom and R. Sari, *Extreme mass-ratio binary black hole merger: Characteristics of the test-particle limit*, *Phys. Rev. D* **106** (2022) 104040 [[arXiv:2204.11738](#)] [[INSPIRE](#)].
- [4275] G. Compère and L. Küchler, *Self-consistent adiabatic inspiral and transition motion*, *Phys. Rev. Lett.* **126** (2021) 241106 [[arXiv:2102.12747](#)] [[INSPIRE](#)].
- [4276] T. Osburn and N. Nishimura, *New self-force method via elliptic partial differential equations for Kerr inspiral models*, *Phys. Rev. D* **106** (2022) 044056 [[arXiv:2206.07031](#)] [[INSPIRE](#)].
- [4277] S.R. Dolan, L. Durkan, C. Kavanagh and B. Wardell, *Metric perturbations of Kerr spacetime in Lorenz gauge: circular equatorial orbits*, *Class. Quant. Grav.* **41** (2024) 155011 [[arXiv:2306.16459](#)] [[INSPIRE](#)].
- [4278] S. Hopper, *Unbound motion on a Schwarzschild background: Practical approaches to frequency domain computations*, *Phys. Rev. D* **97** (2018) 064007 [[arXiv:1706.05455](#)] [[INSPIRE](#)].
- [4279] S. Hopper and V. Cardoso, *Scattering of point particles by black holes: gravitational radiation*, *Phys. Rev. D* **97** (2018) 044031 [[arXiv:1706.02791](#)] [[INSPIRE](#)].
- [4280] L. Barack and O. Long, *Self-force correction to the deflection angle in black-hole scattering: A scalar charge toy model*, *Phys. Rev. D* **106** (2022) 104031 [[arXiv:2209.03740](#)] [[INSPIRE](#)].
- [4281] O. Long, *Self-force in hyperbolic black hole encounters*, Ph.D. thesis, Southampton University, Southampton, U.K. (2022) [[arXiv:2209.03836](#)] [[INSPIRE](#)].
- [4282] L. Barack et al., *Comparison of post-Minkowskian and self-force expansions: Scattering in a scalar charge toy model*, *Phys. Rev. D* **108** (2023) 024025 [[arXiv:2304.09200](#)] [[INSPIRE](#)].
- [4283] C. Whittall and L. Barack, *Frequency-domain approach to self-force in hyperbolic scattering*, *Phys. Rev. D* **108** (2023) 064017 [[arXiv:2305.09724](#)] [[INSPIRE](#)].
- [4284] R. Gonzo and C. Shi, *Boundary to bound dictionary for generic Kerr orbits*, *Phys. Rev. D* **108** (2023) 084065 [[arXiv:2304.06066](#)] [[INSPIRE](#)].

- [4285] S.E. Field et al., *Fast prediction and evaluation of gravitational waveforms using surrogate models*, *Phys. Rev. X* **4** (2014) 031006 [[arXiv:1308.3565](#)] [[INSPIRE](#)].
- [4286] J. Blackman et al., *A Surrogate Model of Gravitational Waveforms from Numerical Relativity Simulations of Precessing Binary Black Hole Mergers*, *Phys. Rev. D* **95** (2017) 104023 [[arXiv:1701.00550](#)] [[INSPIRE](#)].
- [4287] M. Tiglio and A. Villanueva, *Reduced order and surrogate models for gravitational waves*, *Living Rev. Rel.* **25** (2022) 2 [[arXiv:2101.11608](#)] [[INSPIRE](#)].
- [4288] J. Blackman et al., *Fast and Accurate Prediction of Numerical Relativity Waveforms from Binary Black Hole Coalescences Using Surrogate Models*, *Phys. Rev. Lett.* **115** (2015) 121102 [[arXiv:1502.07758](#)] [[INSPIRE](#)].
- [4289] J. Blackman et al., *Numerical relativity waveform surrogate model for generically precessing binary black hole mergers*, *Phys. Rev. D* **96** (2017) 024058 [[arXiv:1705.07089](#)] [[INSPIRE](#)].
- [4290] M. Walker, V. Varma, G. Lovelace and M.A. Scheel, *Numerical-relativity surrogate modeling with nearly extremal black-hole spins*, *Class. Quant. Grav.* **40** (2023) 055003 [[arXiv:2208.02927](#)] [[INSPIRE](#)].
- [4291] T. Islam, S.E. Field and G. Khanna, *Remnant black hole properties from numerical-relativity-informed perturbation theory and implications for waveform modeling*, *Phys. Rev. D* **108** (2023) 064048 [[arXiv:2301.07215](#)] [[INSPIRE](#)].
- [4292] J. Yoo et al., *Numerical relativity surrogate model with memory effects and post-Newtonian hybridization*, *Phys. Rev. D* **108** (2023) 064027 [[arXiv:2306.03148](#)] [[INSPIRE](#)].
- [4293] A. Buonanno and T. Damour, *Effective one-body approach to general relativistic two-body dynamics*, *Phys. Rev. D* **59** (1999) 084006 [[gr-qc/9811091](#)] [[INSPIRE](#)].
- [4294] T. Damour, P. Jaranowski and G. Schaefer, *On the determination of the last stable orbit for circular general relativistic binaries at the third postNewtonian approximation*, *Phys. Rev. D* **62** (2000) 084011 [[gr-qc/0005034](#)] [[INSPIRE](#)].
- [4295] T. Damour, *Coalescence of two spinning black holes: an effective one-body approach*, *Phys. Rev. D* **64** (2001) 124013 [[gr-qc/0103018](#)] [[INSPIRE](#)].
- [4296] R. Cotesta et al., *Enriching the Symphony of Gravitational Waves from Binary Black Holes by Tuning Higher Harmonics*, *Phys. Rev. D* **98** (2018) 084028 [[arXiv:1803.10701](#)] [[INSPIRE](#)].
- [4297] Y. Pan et al., *Inspiral-merger-ringdown multipolar waveforms of nonspinning black-hole binaries using the effective-one-body formalism*, *Phys. Rev. D* **84** (2011) 124052 [[arXiv:1106.1021](#)] [[INSPIRE](#)].
- [4298] A. Taracchini et al., *Prototype effective-one-body model for nonprecessing spinning inspiral-merger-ringdown waveforms*, *Phys. Rev. D* **86** (2012) 024011 [[arXiv:1202.0790](#)] [[INSPIRE](#)].
- [4299] A. Taracchini et al., *Effective-one-body model for black-hole binaries with generic mass ratios and spins*, *Phys. Rev. D* **89** (2014) 061502 [[arXiv:1311.2544](#)] [[INSPIRE](#)].
- [4300] T. Damour and A. Nagar, *A new analytic representation of the ringdown waveform of coalescing spinning black hole binaries*, *Phys. Rev. D* **90** (2014) 024054 [[arXiv:1406.0401](#)] [[INSPIRE](#)].
- [4301] W. Del Pozzo and A. Nagar, *Analytic family of post-merger template waveforms*, *Phys. Rev. D* **95** (2017) 124034 [[arXiv:1606.03952](#)] [[INSPIRE](#)].

- [4302] T. Damour and A. Nagar, *New effective-one-body description of coalescing nonprecessing spinning black-hole binaries*, *Phys. Rev. D* **90** (2014) 044018 [[arXiv:1406.6913](#)] [[INSPIRE](#)].
- [4303] R. Gamba, S. Akçay, S. Bernuzzi and J. Williams, *Effective-one-body waveforms for precessing coalescing compact binaries with post-Newtonian twist*, *Phys. Rev. D* **106** (2022) 024020 [[arXiv:2111.03675](#)] [[INSPIRE](#)].
- [4304] E. Barausse and A. Buonanno, *An Improved effective-one-body Hamiltonian for spinning black-hole binaries*, *Phys. Rev. D* **81** (2010) 084024 [[arXiv:0912.3517](#)] [[INSPIRE](#)].
- [4305] S. Ossokine et al., *Multipolar Effective-One-Body Waveforms for Precessing Binary Black Holes: Construction and Validation*, *Phys. Rev. D* **102** (2020) 044055 [[arXiv:2004.09442](#)] [[INSPIRE](#)].
- [4306] D. Chiamarello and A. Nagar, *Faithful analytical effective-one-body waveform model for spin-aligned, moderately eccentric, coalescing black hole binaries*, *Phys. Rev. D* **101** (2020) 101501 [[arXiv:2001.11736](#)] [[INSPIRE](#)].
- [4307] A. Nagar, A. Bonino and P. Retteno, *Effective one-body multipolar waveform model for spin-aligned, quasicircular, eccentric, hyperbolic black hole binaries*, *Phys. Rev. D* **103** (2021) 104021 [[arXiv:2101.08624](#)] [[INSPIRE](#)].
- [4308] A. Nagar and P. Retteno, *Next generation: Impact of high-order analytical information on effective one body waveform models for noncircularized, spin-aligned black hole binaries*, *Phys. Rev. D* **104** (2021) 104004 [[arXiv:2108.02043](#)] [[INSPIRE](#)].
- [4309] A. Placidi et al., *Exploiting Newton-factorized, 2PN-accurate waveform multipoles in effective-one-body models for spin-aligned noncircularized binaries*, *Phys. Rev. D* **105** (2022) 104030 [[arXiv:2112.05448](#)] [[INSPIRE](#)].
- [4310] A. Ramos-Buades, A. Buonanno, M. Khalil and S. Ossokine, *Effective-one-body multipolar waveforms for eccentric binary black holes with nonprecessing spins*, *Phys. Rev. D* **105** (2022) 044035 [[arXiv:2112.06952](#)] [[INSPIRE](#)].
- [4311] A. Gamboa, M. Khalil and A. Buonanno, *Third post-Newtonian dynamics for eccentric orbits and aligned spins in the effective-one-body waveform model seobnr5ehm*, *Phys. Rev. D* **112** (2025) 044037 [[arXiv:2412.12831](#)] [[INSPIRE](#)].
- [4312] A. Gamboa et al., *Accurate waveforms for eccentric, aligned-spin binary black holes: The multipolar effective-one-body model seobnr5ehm*, *Phys. Rev. D* **112** (2025) 044038 [[arXiv:2412.12823](#)] [[INSPIRE](#)].
- [4313] A. Antonelli et al., *Quasicircular inspirals and plunges from nonspinning effective-one-body Hamiltonians with gravitational self-force information*, *Phys. Rev. D* **101** (2020) 024024 [[arXiv:1907.11597](#)] [[INSPIRE](#)].
- [4314] A. Albertini et al., *Comparing second-order gravitational self-force, numerical relativity, and effective one body waveforms from inspiralling, quasicircular, and nonspinning black hole binaries*, *Phys. Rev. D* **106** (2022) 084061 [[arXiv:2208.01049](#)] [[INSPIRE](#)].
- [4315] A. Albertini et al., *Comparing second-order gravitational self-force and effective one body waveforms from inspiralling, quasicircular and nonspinning black hole binaries. II. The large-mass-ratio case*, *Phys. Rev. D* **106** (2022) 084062 [[arXiv:2208.02055](#)] [[INSPIRE](#)].
- [4316] M. van de Meent et al., *Enhancing the SEOBNRv5 effective-one-body waveform model with second-order gravitational self-force fluxes*, *Phys. Rev. D* **108** (2023) 124038 [[arXiv:2303.18026](#)] [[INSPIRE](#)].

- [4317] A. Antonelli et al., *Energetics of two-body Hamiltonians in post-Minkowskian gravity*, *Phys. Rev. D* **99** (2019) 104004 [[arXiv:1901.07102](#)] [[INSPIRE](#)].
- [4318] M. Khalil, A. Buonanno, J. Steinhoff and J. Vines, *Energetics and scattering of gravitational two-body systems at fourth post-Minkowskian order*, *Phys. Rev. D* **106** (2022) 024042 [[arXiv:2204.05047](#)] [[INSPIRE](#)].
- [4319] A. Buonanno, G. Mogull, R. Patil and L. Pompili, *Post-Minkowskian Theory Meets the Spinning Effective-One-Body Approach for Bound-Orbit Waveforms*, *Phys. Rev. Lett.* **133** (2024) 211402 [[arXiv:2405.19181](#)] [[INSPIRE](#)].
- [4320] F.-L. Julié and N. Deruelle, *Two-body problem in Scalar-Tensor theories as a deformation of General Relativity: an Effective-One-Body approach*, *Phys. Rev. D* **95** (2017) 124054 [[arXiv:1703.05360](#)] [[INSPIRE](#)].
- [4321] M. Khalil et al., *Hairy binary black holes in Einstein-Maxwell-dilaton theory and their effective-one-body description*, *Phys. Rev. D* **98** (2018) 104010 [[arXiv:1809.03109](#)] [[INSPIRE](#)].
- [4322] F.-L. Julié, *Gravitational radiation from compact binary systems in Einstein-Maxwell-dilaton theories*, *JCAP* **10** (2018) 033 [[arXiv:1809.05041](#)] [[INSPIRE](#)].
- [4323] L. Bernard, *Dynamics of compact binary systems in scalar-tensor theories: Equations of motion to the third post-Newtonian order*, *Phys. Rev. D* **98** (2018) 044004 [[arXiv:1802.10201](#)] [[INSPIRE](#)].
- [4324] F.-L. Julié and E. Berti, *Post-Newtonian dynamics and black hole thermodynamics in Einstein-scalar-Gauss-Bonnet gravity*, *Phys. Rev. D* **100** (2019) 104061 [[arXiv:1909.05258](#)] [[INSPIRE](#)].
- [4325] T. Jain et al., *Effective-one-body Hamiltonian in scalar-tensor gravity at third post-Newtonian order*, *Phys. Rev. D* **107** (2023) 084017 [[arXiv:2211.15580](#)] [[INSPIRE](#)].
- [4326] F.-L. Julié, V. Baibhav, E. Berti and A. Buonanno, *Third post-Newtonian effective-one-body Hamiltonian in scalar-tensor and Einstein-scalar-Gauss-Bonnet gravity*, *Phys. Rev. D* **107** (2023) 104044 [[arXiv:2212.13802](#)] [[INSPIRE](#)].
- [4327] T. Jain, *Nonlocal-in-time effective one body Hamiltonian in scalar-tensor gravity at third post-Newtonian order*, *Phys. Rev. D* **107** (2023) 084018 [[arXiv:2301.01070](#)] [[INSPIRE](#)].
- [4328] B.D. Lackey, M. Pürrer, A. Taracchini and S. Marsat, *Surrogate model for an aligned-spin effective one body waveform model of binary neutron star inspirals using Gaussian process regression*, *Phys. Rev. D* **100** (2019) 024002 [[arXiv:1812.08643](#)] [[INSPIRE](#)].
- [4329] R. Cotesta, S. Marsat and M. Pürrer, *Frequency domain reduced order model of aligned-spin effective-one-body waveforms with higher-order modes*, *Phys. Rev. D* **101** (2020) 124040 [[arXiv:2003.12079](#)] [[INSPIRE](#)].
- [4330] S. Schmidt et al., *Machine Learning Gravitational Waves from Binary Black Hole Mergers*, *Phys. Rev. D* **103** (2021) 043020 [[arXiv:2011.01958](#)] [[INSPIRE](#)].
- [4331] S. Khan and R. Green, *Gravitational-wave surrogate models powered by artificial neural networks*, *Phys. Rev. D* **103** (2021) 064015 [[arXiv:2008.12932](#)] [[INSPIRE](#)].
- [4332] G. Riemenschneider et al., *Assessment of consistent next-to-quasicircular corrections and postadiabatic approximation in effective-one-body multipolar waveforms for binary black hole coalescences*, *Phys. Rev. D* **104** (2021) 104045 [[arXiv:2104.07533](#)] [[INSPIRE](#)].

- [4333] L.M. Thomas, G. Pratten and P. Schmidt, *Accelerating multimodal gravitational waveforms from precessing compact binaries with artificial neural networks*, *Phys. Rev. D* **106** (2022) 104029 [[arXiv:2205.14066](#)] [[INSPIRE](#)].
- [4334] A. Nagar and P. Rettengo, *Efficient effective one body time-domain gravitational waveforms*, *Phys. Rev. D* **99** (2019) 021501 [[arXiv:1805.03891](#)] [[INSPIRE](#)].
- [4335] D.P. Mihaylov, S. Ossokine, A. Buonanno and A. Ghosh, *Fast post-adiabatic waveforms in the time domain: Applications to compact binary coalescences in LIGO and Virgo*, *Phys. Rev. D* **104** (2021) 124087 [[arXiv:2105.06983](#)] [[INSPIRE](#)].
- [4336] R. Gamba, S. Bernuzzi and A. Nagar, *Fast, faithful, frequency-domain effective-one-body waveforms for compact binary coalescences*, *Phys. Rev. D* **104** (2021) 084058 [[arXiv:2012.00027](#)] [[INSPIRE](#)].
- [4337] A. Le Tiec et al., *Periastron Advance in Black Hole Binaries*, *Phys. Rev. Lett.* **107** (2011) 141101 [[arXiv:1106.3278](#)] [[INSPIRE](#)].
- [4338] T. Hinderer et al., *Periastron advance in spinning black hole binaries: comparing effective-one-body and Numerical Relativity*, *Phys. Rev. D* **88** (2013) 084005 [[arXiv:1309.0544](#)] [[INSPIRE](#)].
- [4339] T. Damour, A. Nagar, D. Pollney and C. Reisswig, *Energy versus Angular Momentum in Black Hole Binaries*, *Phys. Rev. Lett.* **108** (2012) 131101 [[arXiv:1110.2938](#)] [[INSPIRE](#)].
- [4340] A. Nagar, T. Damour, C. Reisswig and D. Pollney, *Energetics and phasing of nonprecessing spinning coalescing black hole binaries*, *Phys. Rev. D* **93** (2016) 044046 [[arXiv:1506.08457](#)] [[INSPIRE](#)].
- [4341] A. Nagar, G. Pratten, G. Riemenschneider and R. Gamba, *Multipolar effective one body model for nonspinning black hole binaries*, *Phys. Rev. D* **101** (2020) 024041 [[arXiv:1904.09550](#)] [[INSPIRE](#)].
- [4342] S. Ossokine et al., *Assessing the Energetics of Spinning Binary Black Hole Systems*, *Phys. Rev. D* **98** (2018) 104057 [[arXiv:1712.06533](#)] [[INSPIRE](#)].
- [4343] M. Khalil, J. Steinhoff, J. Vines and A. Buonanno, *Fourth post-Newtonian effective-one-body Hamiltonians with generic spins*, *Phys. Rev. D* **101** (2020) 104034 [[arXiv:2003.04469](#)] [[INSPIRE](#)].
- [4344] A. Nagar, P. Rettengo, R. Gamba and S. Bernuzzi, *Effective-one-body waveforms from dynamical captures in black hole binaries*, *Phys. Rev. D* **103** (2021) 064013 [[arXiv:2009.12857](#)] [[INSPIRE](#)].
- [4345] P. Rettengo et al., *Strong-field scattering of two spinning black holes: Numerical relativity versus post-Minkowskian gravity*, *Phys. Rev. D* **108** (2023) 124016 [[arXiv:2307.06999](#)] [[INSPIRE](#)].
- [4346] S. Albanesi et al., *Scattering and dynamical capture of two black holes: Synergies between numerical and analytical methods*, *Phys. Rev. D* **111** (2025) 024069 [[arXiv:2405.20398](#)] [[INSPIRE](#)].
- [4347] P. Ajith et al., *Phenomenological template family for black-hole coalescence waveforms*, *Class. Quant. Grav.* **24** (2007) S689 [[arXiv:0704.3764](#)] [[INSPIRE](#)].
- [4348] L. London et al., *First higher-multipole model of gravitational waves from spinning and coalescing black-hole binaries*, *Phys. Rev. Lett.* **120** (2018) 161102 [[arXiv:1708.00404](#)] [[INSPIRE](#)].

- [4349] S. Khan, K. Chatziioannou, M. Hannam and F. Ohme, *Phenomenological model for the gravitational-wave signal from precessing binary black holes with two-spin effects*, *Phys. Rev. D* **100** (2019) 024059 [[arXiv:1809.10113](#)] [[INSPIRE](#)].
- [4350] S. Khan, F. Ohme, K. Chatziioannou and M. Hannam, *Including higher order multipoles in gravitational-wave models for precessing binary black holes*, *Phys. Rev. D* **101** (2020) 024056 [[arXiv:1911.06050](#)] [[INSPIRE](#)].
- [4351] J.E. Thompson et al., *PhenomXO4a: a phenomenological gravitational-wave model for precessing black-hole binaries with higher multipoles and asymmetries*, *Phys. Rev. D* **109** (2024) 063012 [[arXiv:2312.10025](#)] [[INSPIRE](#)].
- [4352] A. Buonanno, Y.-B. Chen and M. Vallisneri, *Detecting gravitational waves from precessing binaries of spinning compact objects: Adiabatic limit*, *Phys. Rev. D* **67** (2003) 104025 [Erratum *ibid.* **74** (2006) 029904] [[gr-qc/0211087](#)] [[INSPIRE](#)].
- [4353] P. Schmidt, M. Hannam, S. Husa and P. Ajith, *Tracking the precession of compact binaries from their gravitational-wave signal*, *Phys. Rev. D* **84** (2011) 024046 [[arXiv:1012.2879](#)] [[INSPIRE](#)].
- [4354] M. Boyle, R. Owen and H.P. Pfeiffer, *A geometric approach to the precession of compact binaries*, *Phys. Rev. D* **84** (2011) 124011 [[arXiv:1110.2965](#)] [[INSPIRE](#)].
- [4355] P. Schmidt, M. Hannam and S. Husa, *Towards models of gravitational waveforms from generic binaries: A simple approximate mapping between precessing and non-precessing inspiral signals*, *Phys. Rev. D* **86** (2012) 104063 [[arXiv:1207.3088](#)] [[INSPIRE](#)].
- [4356] H. Estellés et al., *Phenomenological time domain model for dominant quadrupole gravitational wave signal of coalescing binary black holes*, *Phys. Rev. D* **103** (2021) 124060 [[arXiv:2004.08302](#)] [[INSPIRE](#)].
- [4357] H. Estellés et al., *Time-domain phenomenological model of gravitational-wave subdominant harmonics for quasicircular nonprecessing binary black hole coalescences*, *Phys. Rev. D* **105** (2022) 084039 [[arXiv:2012.11923](#)] [[INSPIRE](#)].
- [4358] H. Estellés et al., *New twists in compact binary waveform modeling: A fast time-domain model for precession*, *Phys. Rev. D* **105** (2022) 084040 [[arXiv:2105.05872](#)] [[INSPIRE](#)].
- [4359] A. Albertini et al., *Waveforms and fluxes: Towards a self-consistent effective one body waveform model for nonprecessing, coalescing black-hole binaries for third generation detectors*, *Phys. Rev. D* **105** (2022) 084025 [[arXiv:2111.14149](#)] [[INSPIRE](#)].
- [4360] A. Ramos-Buades, P. Schmidt, G. Pratten and S. Husa, *Validity of common modeling approximations for precessing binary black holes with higher-order modes*, *Phys. Rev. D* **101** (2020) 103014 [[arXiv:2001.10936](#)] [[INSPIRE](#)].
- [4361] S. Ghosh, P. Kolitsidou and M. Hannam, *First frequency-domain phenomenological model of the multipole asymmetry in gravitational-wave signals from binary-black-hole coalescence*, *Phys. Rev. D* **109** (2024) 024061 [[arXiv:2310.16980](#)] [[INSPIRE](#)].
- [4362] X. Liu, Z. Cao and Z.-H. Zhu, *Effective-one-body numerical-relativity waveform model for eccentric spin-precessing binary black hole coalescence*, *Class. Quant. Grav.* **41** (2024) 195019 [[arXiv:2310.04552](#)] [[INSPIRE](#)].
- [4363] R. Gamba, D. Chiamello and S. Neogi, *Toward efficient effective-one-body models for generic, nonplanar orbits*, *Phys. Rev. D* **110** (2024) 024031 [[arXiv:2404.15408](#)] [[INSPIRE](#)].
- [4364] G. Pappas and T.A. Apostolatos, *Revising the multipole moments of numerical spacetimes, and its consequences*, *Phys. Rev. Lett.* **108** (2012) 231104 [[arXiv:1201.6067](#)] [[INSPIRE](#)].

- [4365] G. Pappas and T.P. Sotiriou, *Multipole moments in scalar-tensor theory of gravity*, *Phys. Rev. D* **91** (2015) 044011 [[arXiv:1412.3494](#)] [[INSPIRE](#)].
- [4366] G. Pappas et al., *Multipole moments and universal relations for scalarized neutron stars*, *Phys. Rev. D* **99** (2019) 104014 [[arXiv:1812.01117](#)] [[INSPIRE](#)].
- [4367] P. Pani and E. Berti, *Slowly rotating neutron stars in scalar-tensor theories*, *Phys. Rev. D* **90** (2014) 024025 [[arXiv:1405.4547](#)] [[INSPIRE](#)].
- [4368] S.M. Brown, *Tidal Deformability of Neutron Stars in Scalar-tensor Theories of Gravity*, *Astrophys. J.* **958** (2023) 125 [[arXiv:2210.14025](#)] [[INSPIRE](#)].
- [4369] G. Creci, T. Hinderer and J. Steinhoff, *Tidal properties of neutron stars in scalar-tensor theories of gravity*, *Phys. Rev. D* **108** (2023) 124073 [*Erratum ibid.* **111** (2025) 089901] [[arXiv:2308.11323](#)] [[INSPIRE](#)].
- [4370] J.L. Blázquez-Salcedo et al., *Quasinormal modes of compact objects in alternative theories of gravity*, *Eur. Phys. J. Plus* **134** (2019) 46 [[arXiv:1810.09432](#)] [[INSPIRE](#)].
- [4371] J.L. Blázquez-Salcedo et al., *Perturbed black holes in Einstein-dilaton-Gauss-Bonnet gravity: Stability, ringdown, and gravitational-wave emission*, *Phys. Rev. D* **94** (2016) 104024 [[arXiv:1609.01286](#)] [[INSPIRE](#)].
- [4372] J.L. Blázquez-Salcedo, F.S. Khoo and J. Kunz, *Quasinormal modes of Einstein-Gauss-Bonnet-dilaton black holes*, *Phys. Rev. D* **96** (2017) 064008 [[arXiv:1706.03262](#)] [[INSPIRE](#)].
- [4373] Z. Altaha Motahar et al., *Axial quasinormal modes of scalarized neutron stars with massive self-interacting scalar field*, *Phys. Rev. D* **99** (2019) 104006 [[arXiv:1902.01277](#)] [[INSPIRE](#)].
- [4374] K.V. Staykov et al., *Axial perturbations of hairy Gauss-Bonnet black holes with a massive self-interacting scalar field*, *Phys. Rev. D* **105** (2022) 044040 [[arXiv:2112.00703](#)] [[INSPIRE](#)].
- [4375] J.L. Blázquez-Salcedo et al., *Polar quasinormal modes of the scalarized Einstein-Gauss-Bonnet black holes*, *Phys. Rev. D* **102** (2020) 024086 [[arXiv:2006.06006](#)] [[INSPIRE](#)].
- [4376] J.L. Blázquez-Salcedo, F. Scen Khoo and J. Kunz, *Ultra-long-lived quasi-normal modes of neutron stars in massive scalar-tensor gravity*, *Europhys. Lett.* **130** (2020) 50002 [[arXiv:2001.09117](#)] [[INSPIRE](#)].
- [4377] A.K.-W. Chung, P. Wagle and N. Yunes, *Spectral method for the gravitational perturbations of black holes: Schwarzschild background case*, *Phys. Rev. D* **107** (2023) 124032 [[arXiv:2302.11624](#)] [[INSPIRE](#)].
- [4378] L. Hui, A. Podo, L. Santoni and E. Trincherini, *An analytic approach to quasinormal modes for coupled linear systems*, *JHEP* **03** (2023) 060 [[arXiv:2210.10788](#)] [[INSPIRE](#)].
- [4379] D. Li, P. Wagle, Y. Chen and N. Yunes, *Perturbations of Spinning Black Holes beyond General Relativity: Modified Teukolsky Equation*, *Phys. Rev. X* **13** (2023) 021029 [[arXiv:2206.10652](#)] [[INSPIRE](#)].
- [4380] M. Zilhao et al., *Numerical relativity for  $D$  dimensional axially symmetric space-times: formalism and code tests*, *Phys. Rev. D* **81** (2010) 084052 [[arXiv:1001.2302](#)] [[INSPIRE](#)].
- [4381] M. Okounkova, L.C. Stein, M.A. Scheel and D.A. Hemberger, *Numerical binary black hole mergers in dynamical Chern-Simons gravity: Scalar field*, *Phys. Rev. D* **96** (2017) 044020 [[arXiv:1705.07924](#)] [[INSPIRE](#)].
- [4382] R. Cayuso and L. Lehner, *Nonlinear, noniterative treatment of EFT-motivated gravity*, *Phys. Rev. D* **102** (2020) 084008 [[arXiv:2005.13720](#)] [[INSPIRE](#)].

- [4383] M. Bezares, M. Crisostomi, C. Palenzuela and E. Barausse, *K-dynamics: well-posed 1+1 evolutions in K-essence*, *JCAP* **03** (2021) 072 [[arXiv:2008.07546](#)] [[INSPIRE](#)].
- [4384] N. Franchini, M. Bezares, E. Barausse and L. Lehner, *Fixing the dynamical evolution in scalar-Gauss-Bonnet gravity*, *Phys. Rev. D* **106** (2022) 064061 [[arXiv:2206.00014](#)] [[INSPIRE](#)].
- [4385] A. Spiers, A. Maselli and T.P. Sotiriou, *Measuring scalar charge with compact binaries: High accuracy modeling with self-force*, *Phys. Rev. D* **109** (2024) 064022 [[arXiv:2310.02315](#)] [[INSPIRE](#)].
- [4386] A. Maselli, N. Franchini, L. Gualtieri and T.P. Sotiriou, *Detecting scalar fields with Extreme Mass Ratio Inspirals*, *Phys. Rev. Lett.* **125** (2020) 141101 [[arXiv:2004.11895](#)] [[INSPIRE](#)].
- [4387] A. Maselli et al., *Detecting fundamental fields with LISA observations of gravitational waves from extreme mass-ratio inspirals*, *Nature Astron.* **6** (2022) 464 [[arXiv:2106.11325](#)] [[INSPIRE](#)].
- [4388] S. Barsanti et al., *Extreme mass-ratio inspirals as probes of scalar fields: Eccentric equatorial orbits around Kerr black holes*, *Phys. Rev. D* **106** (2022) 044029 [[arXiv:2203.05003](#)] [[INSPIRE](#)].
- [4389] S. Barsanti, A. Maselli, T.P. Sotiriou and L. Gualtieri, *Detecting Massive Scalar Fields with Extreme Mass-Ratio Inspirals*, *Phys. Rev. Lett.* **131** (2023) 051401 [[arXiv:2212.03888](#)] [[INSPIRE](#)].
- [4390] C.F. Sopuerta and N. Yunes, *Extreme and Intermediate-Mass Ratio Inspirals in Dynamical Chern-Simons Modified Gravity*, *Phys. Rev. D* **80** (2009) 064006 [[arXiv:0904.4501](#)] [[INSPIRE](#)].
- [4391] P. Pani, V. Cardoso and L. Gualtieri, *Gravitational waves from extreme mass-ratio inspirals in Dynamical Chern-Simons gravity*, *Phys. Rev. D* **83** (2011) 104048 [[arXiv:1104.1183](#)] [[INSPIRE](#)].
- [4392] V. Cardoso et al., *Floating and sinking: The imprint of massive scalars around rotating black holes*, *Phys. Rev. Lett.* **107** (2011) 241101 [[arXiv:1109.6021](#)] [[INSPIRE](#)].
- [4393] N. Yunes, P. Pani and V. Cardoso, *Gravitational Waves from Quasicircular Extreme Mass-Ratio Inspirals as Probes of Scalar-Tensor Theories*, *Phys. Rev. D* **85** (2012) 102003 [[arXiv:1112.3351](#)] [[INSPIRE](#)].
- [4394] P. Canizares, J.R. Gair and C.F. Sopuerta, *Testing Chern-Simons Modified Gravity with Gravitational-Wave Detections of Extreme-Mass-Ratio Binaries*, *Phys. Rev. D* **86** (2012) 044010 [[arXiv:1205.1253](#)] [[INSPIRE](#)].
- [4395] P. Zimmerman, *Gravitational self-force in scalar-tensor gravity*, *Phys. Rev. D* **92** (2015) 064051 [[arXiv:1507.04076](#)] [[INSPIRE](#)].
- [4396] L. Bernard, *Dynamics of compact binary systems in scalar-tensor theories: II. Center-of-mass and conserved quantities to 3PN order*, *Phys. Rev. D* **99** (2019) 044047 [[arXiv:1812.04169](#)] [[INSPIRE](#)].
- [4397] L. Bernard, L. Blanchet and D. Trestini, *Gravitational waves in scalar-tensor theory to one-and-a-half post-Newtonian order*, *JCAP* **08** (2022) 008 [[arXiv:2201.10924](#)] [[INSPIRE](#)].
- [4398] N. Sennett, S. Marsat and A. Buonanno, *Gravitational waveforms in scalar-tensor gravity at 2PN relative order*, *Phys. Rev. D* **94** (2016) 084003 [[arXiv:1607.01420](#)] [[INSPIRE](#)].
- [4399] F. Taherasghari and C.M. Will, *Compact binary systems in Einstein-Æther gravity: Direct integration of the relaxed field equations to 2.5 post-Newtonian order*, *Phys. Rev. D* **108** (2023) 124026 [[arXiv:2308.13243](#)] [[INSPIRE](#)].

- [4400] F.-L. Julié, H.O. Silva, E. Berti and N. Yunes, *Black hole sensitivities in Einstein-scalar-Gauss-Bonnet gravity*, *Phys. Rev. D* **105** (2022) 124031 [[arXiv:2202.01329](#)] [[INSPIRE](#)].
- [4401] N. Sennett, L. Shao and J. Steinhoff, *Effective action model of dynamically scalarizing binary neutron stars*, *Phys. Rev. D* **96** (2017) 084019 [[arXiv:1708.08285](#)] [[INSPIRE](#)].
- [4402] N. Sennett and A. Buonanno, *Modeling dynamical scalarization with a resummed post-Newtonian expansion*, *Phys. Rev. D* **93** (2016) 124004 [[arXiv:1603.03300](#)] [[INSPIRE](#)].
- [4403] L. Sampson et al., *Projected Constraints on Scalarization with Gravitational Waves from Neutron Star Binaries*, *Phys. Rev. D* **90** (2014) 124091 [[arXiv:1407.7038](#)] [[INSPIRE](#)].
- [4404] L. Sampson, N. Cornish and N. Yunes, *Mismodeling in gravitational-wave astronomy: The trouble with templates*, *Phys. Rev. D* **89** (2014) 064037 [[arXiv:1311.4898](#)] [[INSPIRE](#)].
- [4405] F.-L. Julié, L. Pompili and A. Buonanno, *Inspiral-merger-ringdown waveforms in Einstein-scalar-Gauss-Bonnet gravity within the effective-one-body formalism*, *Phys. Rev. D* **111** (2025) 024016 [[arXiv:2406.13654](#)] [[INSPIRE](#)].
- [4406] S.E. Gralla, *On the Ambiguity in Relativistic Tidal Deformability*, *Class. Quant. Grav.* **35** (2018) 085002 [[arXiv:1710.11096](#)] [[INSPIRE](#)].
- [4407] G. Creci, T. Hinderer and J. Steinhoff, *Tidal response from scattering and the role of analytic continuation*, *Phys. Rev. D* **104** (2021) 124061 [*Erratum ibid.* **105** (2022) 109902] [[arXiv:2108.03385](#)] [[INSPIRE](#)].
- [4408] E. Babichev and C. Deffayet, *An introduction to the Vainshtein mechanism*, *Class. Quant. Grav.* **30** (2013) 184001 [[arXiv:1304.7240](#)] [[INSPIRE](#)].
- [4409] A. Coates and F.M. Ramazanoğlu, *Treatments and placebos for the pathologies of effective field theories*, *Phys. Rev. D* **108** (2023) L101501 [[arXiv:2307.07743](#)] [[INSPIRE](#)].
- [4410] P. Ajith et al., *A template bank for gravitational waveforms from coalescing binary black holes. I. Non-spinning binaries*, *Phys. Rev. D* **77** (2008) 104017 [*Erratum ibid.* **79** (2009) 129901] [[arXiv:0710.2335](#)] [[INSPIRE](#)].
- [4411] P. Ajith, *Gravitational-wave data analysis using binary black-hole waveforms*, *Class. Quant. Grav.* **25** (2008) 114033 [[arXiv:0712.0343](#)] [[INSPIRE](#)].
- [4412] E. Harms, S. Bernuzzi and B. Brügmann, *Numerical solution of the 2+1 Teukolsky equation on a hyperboloidal and horizon penetrating foliation of Kerr and application to late-time decays*, *Class. Quant. Grav.* **30** (2013) 115013 [[arXiv:1301.1591](#)] [[INSPIRE](#)].
- [4413] A. Buonanno et al., *Comparison of post-Newtonian templates for compact binary inspiral signals in gravitational-wave detectors*, *Phys. Rev. D* **80** (2009) 084043 [[arXiv:0907.0700](#)] [[INSPIRE](#)].
- [4414] B. Mikoczi, M. Vasuth and L.A. Gergely, *Self-interaction spin effects in inspiralling compact binaries*, *Phys. Rev. D* **71** (2005) 124043 [[astro-ph/0504538](#)] [[INSPIRE](#)].
- [4415] T. Damour and P. Jaranowski, *Four-loop static contribution to the gravitational interaction potential of two point masses*, *Phys. Rev. D* **95** (2017) 084005 [[arXiv:1701.02645](#)] [[INSPIRE](#)].
- [4416] R. O’Shaughnessy et al., *Efficient asymptotic frame selection for binary black hole spacetimes using asymptotic radiation*, *Phys. Rev. D* **84** (2011) 124002 [[arXiv:1109.5224](#)] [[INSPIRE](#)].
- [4417] A. Bohé et al., *Improved effective-one-body model of spinning, nonprecessing binary black holes for the era of gravitational-wave astrophysics with advanced detectors*, *Phys. Rev. D* **95** (2017) 044028 [[arXiv:1611.03703](#)] [[INSPIRE](#)].

- [4418] M. Kesden et al., *Effective potentials and morphological transitions for binary black-hole spin precession*, *Phys. Rev. Lett.* **114** (2015) 081103 [[arXiv:1411.0674](#)] [[INSPIRE](#)].
- [4419] D. Gerosa et al., *Multi-timescale analysis of phase transitions in precessing black-hole binaries*, *Phys. Rev. D* **92** (2015) 064016 [[arXiv:1506.03492](#)] [[INSPIRE](#)].
- [4420] K. Chatziioannou, E. Poisson and N. Yunes, *Improved next-to-leading order tidal heating and torquing of a Kerr black hole*, *Phys. Rev. D* **94** (2016) 084043 [[arXiv:1608.02899](#)] [[INSPIRE](#)].
- [4421] K. Chatziioannou, A. Klein, N. Cornish and N. Yunes, *Analytic Gravitational Waveforms for Generic Precessing Binary Inspirals*, *Phys. Rev. Lett.* **118** (2017) 051101 [[arXiv:1606.03117](#)] [[INSPIRE](#)].
- [4422] M. Colleoni et al., *New gravitational waveform model for precessing binary neutron stars with double-spin effects*, *Phys. Rev. D* **111** (2025) 064025 [[arXiv:2311.15978](#)] [[INSPIRE](#)].
- [4423] M. Khalil et al., *Theoretical groundwork supporting the precessing-spin two-body dynamics of the effective-one-body waveform models SEOBNRv5*, *Phys. Rev. D* **108** (2023) 124036 [[arXiv:2303.18143](#)] [[INSPIRE](#)].
- [4424] P. Rettegno et al., *Comparing Effective One Body Hamiltonians for spin-aligned coalescing binaries*, *Phys. Rev. D* **101** (2020) 104027 [[arXiv:1911.10818](#)] [[INSPIRE](#)].
- [4425] T. Damour, P. Jaranowski and G. Schaefel, *Effective one body approach to the dynamics of two spinning black holes with next-to-leading order spin-orbit coupling*, *Phys. Rev. D* **78** (2008) 024009 [[arXiv:0803.0915](#)] [[INSPIRE](#)].
- [4426] A. Nagar, *Effective one body Hamiltonian of two spinning black-holes with next-to-next-to-leading order spin-orbit coupling*, *Phys. Rev. D* **84** (2011) 084028 [Erratum *ibid.* **88** (2013) 089901] [[arXiv:1106.4349](#)] [[INSPIRE](#)].
- [4427] S. Balmelli and T. Damour, *New effective-one-body Hamiltonian with next-to-leading order spin-spin coupling*, *Phys. Rev. D* **92** (2015) 124022 [[arXiv:1509.08135](#)] [[INSPIRE](#)].
- [4428] E. Barausse, E. Racine and A. Buonanno, *Hamiltonian of a spinning test-particle in curved spacetime*, *Phys. Rev. D* **80** (2009) 104025 [Erratum *ibid.* **85** (2012) 069904] [[arXiv:0907.4745](#)] [[INSPIRE](#)].
- [4429] E. Barausse and A. Buonanno, *Extending the effective-one-body Hamiltonian of black-hole binaries to include next-to-next-to-leading spin-orbit couplings*, *Phys. Rev. D* **84** (2011) 104027 [[arXiv:1107.2904](#)] [[INSPIRE](#)].
- [4430] E. Berti and A. Klein, *Mixing of spherical and spheroidal modes in perturbed Kerr black holes*, *Phys. Rev. D* **90** (2014) 064012 [[arXiv:1408.1860](#)] [[INSPIRE](#)].
- [4431] S. Akcay, R. Gamba and S. Bernuzzi, *Hybrid post-Newtonian effective-one-body scheme for spin-precessing compact-binary waveforms up to merger*, *Phys. Rev. D* **103** (2021) 024014 [[arXiv:2005.05338](#)] [[INSPIRE](#)].
- [4432] Y. Pan et al., *Inspiral-merger-ringdown waveforms of spinning, precessing black-hole binaries in the effective-one-body formalism*, *Phys. Rev. D* **89** (2014) 084006 [[arXiv:1307.6232](#)] [[INSPIRE](#)].
- [4433] S. Babak, A. Taracchini and A. Buonanno, *Validating the effective-one-body model of spinning, precessing binary black holes against numerical relativity*, *Phys. Rev. D* **95** (2017) 024010 [[arXiv:1607.05661](#)] [[INSPIRE](#)].
- [4434] T. Hinderer and S. Babak, *Foundations of an effective-one-body model for coalescing binaries on eccentric orbits*, *Phys. Rev. D* **96** (2017) 104048 [[arXiv:1707.08426](#)] [[INSPIRE](#)].

- [4435] Z. Cao and W.-B. Han, *Waveform model for an eccentric binary black hole based on the effective-one-body-numerical-relativity formalism*, *Phys. Rev. D* **96** (2017) 044028 [[arXiv:1708.00166](#)] [[INSPIRE](#)].
- [4436] X. Liu, Z. Cao and L. Shao, *Validating the Effective-One-Body Numerical-Relativity Waveform Models for Spin-aligned Binary Black Holes along Eccentric Orbits*, *Phys. Rev. D* **101** (2020) 044049 [[arXiv:1910.00784](#)] [[INSPIRE](#)].
- [4437] A. Bonino et al., *Inferring eccentricity evolution from observations of coalescing binary black holes*, *Phys. Rev. D* **107** (2023) 064024 [[arXiv:2207.10474](#)] [[INSPIRE](#)].
- [4438] A. Nagar, G. Riemenschneider and G. Pratten, *Impact of Numerical Relativity information on effective-one-body waveform models*, *Phys. Rev. D* **96** (2017) 084045 [[arXiv:1703.06814](#)] [[INSPIRE](#)].
- [4439] A. Nagar et al., *Multipolar effective one body waveform model for spin-aligned black hole binaries*, *Phys. Rev. D* **102** (2020) 024077 [[arXiv:2001.09082](#)] [[INSPIRE](#)].
- [4440] F. Messina, A. Maldarella and A. Nagar, *Factorization and resummation: A new paradigm to improve gravitational wave amplitudes. II: the higher multipolar modes*, *Phys. Rev. D* **97** (2018) 084016 [[arXiv:1801.02366](#)] [[INSPIRE](#)].
- [4441] A. Nagar et al., *Analytic systematics in next generation of effective-one-body gravitational waveform models for future observations*, *Phys. Rev. D* **108** (2023) 124018 [[arXiv:2304.09662](#)] [[INSPIRE](#)].
- [4442] S. Albanesi et al., *Assessment of effective-one-body radiation reactions for generic planar orbits*, *Phys. Rev. D* **105** (2022) 104031 [[arXiv:2202.10063](#)] [[INSPIRE](#)].
- [4443] T. Damour and N. Deruelle, *General relativistic celestial mechanics of binary systems. I. The post-Newtonian motion.*, *Ann. Inst. Henri Poincaré Phys. Théor* **43** (1985) 107.
- [4444] G. Schäfer and N. Wex, *Second post-Newtonian motion of compact binaries*, *Phys. Lett. A* **174** (1993) 196 [[INSPIRE](#)].
- [4445] C. Konigsdorffer and A. Gopakumar, *Phasing of gravitational waves from inspiralling eccentric binaries at the third-and-a-half post-Newtonian order*, *Phys. Rev. D* **73** (2006) 124012 [[gr-qc/0603056](#)] [[INSPIRE](#)].
- [4446] N. Wex, *The second post-Newtonian motion of compact binary-star systems with spin*, *Class. Quant. Grav.* **12** (1995) 983 [[INSPIRE](#)].
- [4447] C. Konigsdorffer and A. Gopakumar, *Post-Newtonian accurate parametric solution to the dynamics of spinning compact binaries in eccentric orbits: The leading order spin-orbit interaction*, *Phys. Rev. D* **71** (2005) 024039 [[gr-qc/0501011](#)] [[INSPIRE](#)].
- [4448] Z. Keresztes, B. Mikoczi and L.A. Gergely, *The kepler equation for inspiralling compact binaries*, *Phys. Rev. D* **72** (2005) 104022 [[astro-ph/0510602](#)] [[INSPIRE](#)].
- [4449] J. Major and M. Vasuth, *Gravitational waveforms for spinning compact binaries*, *Phys. Rev. D* **77** (2008) 104005 [[arXiv:0806.2273](#)] [[INSPIRE](#)].
- [4450] N.J. Cornish and J. Shapiro Key, *Computing waveforms for spinning compact binaries in quasi-eccentric orbits*, *Phys. Rev. D* **82** (2010) 044028 [*Erratum ibid.* **84** (2011) 029901] [[arXiv:1004.5322](#)] [[INSPIRE](#)].
- [4451] P. Csizmadia, G. Debreczeni, I. Racz and M. Vasuth, *Gravitational waves from spinning eccentric binaries*, *Class. Quant. Grav.* **29** (2012) 245002 [[arXiv:1207.0001](#)] [[INSPIRE](#)].

- [4452] B. Ireland et al., *Eccentric Binary Black Holes with Spin via the Direct Integration of the Post-Newtonian Equations of Motion*, *Phys. Rev. D* **100** (2019) 024015 [[arXiv:1904.03443](#)] [[INSPIRE](#)].
- [4453] N. Loutrel and N. Yunes, *Hereditary Effects in Eccentric Compact Binary Inspirals to Third Post-Newtonian Order*, *Class. Quant. Grav.* **34** (2017) 044003 [[arXiv:1607.05409](#)] [[INSPIRE](#)].
- [4454] N. Loutrel, S. Liebersbach, N. Yunes and N. Cornish, *The eccentric behavior of inspiralling compact binaries*, *Class. Quant. Grav.* **36** (2019) 025004 [[arXiv:1810.03521](#)] [[INSPIRE](#)].
- [4455] J.N. Arredondo, A. Klein and N. Yunes, *Efficient gravitational-wave model for fully-precessing and moderately eccentric, compact binary inspirals*, *Phys. Rev. D* **110** (2024) 044044 [[arXiv:2402.06804](#)] [[INSPIRE](#)].
- [4456] G. Morras, G. Pratten and P. Schmidt, *Improved post-Newtonian waveform model for inspiralling precessing-eccentric compact binaries*, *Phys. Rev. D* **111** (2025) 084052 [[arXiv:2502.03929](#)] [[INSPIRE](#)].
- [4457] S. Mukherjee et al., *Toward establishing the presence or absence of horizons in coalescing binaries of compact objects by using their gravitational wave signals*, *Phys. Rev. D* **106** (2022) 104032 [[arXiv:2202.08661](#)] [[INSPIRE](#)].
- [4458] E. Poisson, *Metric of a tidally distorted, nonrotating black hole*, *Phys. Rev. Lett.* **94** (2005) 161103 [[gr-qc/0501032](#)] [[INSPIRE](#)].
- [4459] W.D. Goldberger, J. Li and I.Z. Rothstein, *Non-conservative effects on spinning black holes from world-line effective field theory*, *JHEP* **06** (2021) 053 [[arXiv:2012.14869](#)] [[INSPIRE](#)].
- [4460] S. Comeau and E. Poisson, *Tidal interaction of a small black hole in the field of a large Kerr black hole*, *Phys. Rev. D* **80** (2009) 087501 [[arXiv:0908.4518](#)] [[INSPIRE](#)].
- [4461] N. Yunes and J. Gonzalez, *Metric of a tidally perturbed spinning black hole*, *Phys. Rev. D* **73** (2006) 024010 [*Erratum ibid.* **89** (2014) 089902] [[gr-qc/0510076](#)] [[INSPIRE](#)].
- [4462] D. Brown et al., *Data formats for numerical relativity waves*, [arXiv:0709.0093](#) [[INSPIRE](#)].
- [4463] S. Isoyama and H. Nakano, *Post-Newtonian templates for binary black-hole inspirals: the effect of the horizon fluxes and the secular change in the black-hole masses and spins*, *Class. Quant. Grav.* **35** (2018) 024001 [[arXiv:1705.03869](#)] [[INSPIRE](#)].
- [4464] C. Kavanagh, A.C. Ottewill and B. Wardell, *Analytical high-order post-Newtonian expansions for extreme mass ratio binaries*, *Phys. Rev. D* **92** (2015) 084025 [[arXiv:1503.02334](#)] [[INSPIRE](#)].
- [4465] N. Yunes et al., *Modeling Extreme Mass Ratio Inspirals within the Effective-One-Body Approach*, *Phys. Rev. Lett.* **104** (2010) 091102 [[arXiv:0909.4263](#)] [[INSPIRE](#)].
- [4466] N. Yunes et al., *Extreme Mass-Ratio Inspirals in the Effective-One-Body Approach: Quasi-Circular, Equatorial Orbits around a Spinning Black Hole*, *Phys. Rev. D* **83** (2011) 044044 [*Erratum ibid.* **88** (2013) 109904] [[arXiv:1009.6013](#)] [[INSPIRE](#)].
- [4467] A. Nagar and S. Akcay, *Horizon-absorbed energy flux in circularized, nonspinning black-hole binaries and its effective-one-body representation*, *Phys. Rev. D* **85** (2012) 044025 [[arXiv:1112.2840](#)] [[INSPIRE](#)].
- [4468] S. Mukherjee, K.S. Phukon, S. Datta and S. Bose, *Phenomenological gravitational waveform model of binary black holes incorporating horizon fluxes*, *Phys. Rev. D* **110** (2024) 124027 [[arXiv:2311.17554](#)] [[INSPIRE](#)].

- [4469] J. Blackman, B. Szilagyi, C.R. Galley and M. Tiglio, *Sparse Representations of Gravitational Waves from Precessing Compact Binaries*, *Phys. Rev. Lett.* **113** (2014) 021101 [[arXiv:1401.7038](#)] [[INSPIRE](#)].
- [4470] D. Ferguson, *Optimizing the placement of numerical relativity simulations using a mismatch predicting neural network*, *Phys. Rev. D* **107** (2023) 024034 [[arXiv:2209.15144](#)] [[INSPIRE](#)].
- [4471] D. Gerosa, F. Hébert and L.C. Stein, *Black-hole kicks from numerical-relativity surrogate models*, *Phys. Rev. D* **97** (2018) 104049 [[arXiv:1802.04276](#)] [[INSPIRE](#)].
- [4472] L. Speri et al., *Fast and Fourier: Extreme Mass Ratio Inspiral Waveforms in the Frequency Domain*, [arXiv:2307.12585](#) [[DOI:10.3389/fams.2023.1266739](#)] [[INSPIRE](#)].
- [4473] A.J.K. Chua, C.J. Moore and J.R. Gair, *Augmented kludge waveforms for detecting extreme-mass-ratio inspirals*, *Phys. Rev. D* **96** (2017) 044005 [[arXiv:1705.04259](#)] [[INSPIRE](#)].
- [4474] M. Boyle, L.E. Kidder, S. Ossokine and H.P. Pfeiffer, *Gravitational-wave modes from precessing black-hole binaries*, [arXiv:1409.4431](#) [[INSPIRE](#)].
- [4475] C. Kalaghatgi and M. Hannam, *Investigating the effect of in-plane spin directions for precessing binary black hole systems*, *Phys. Rev. D* **103** (2021) 024024 [[arXiv:2008.09957](#)] [[INSPIRE](#)].
- [4476] L.M. Thomas, P. Schmidt and G. Pratten, *New effective precession spin for modeling multimodal gravitational waveforms in the strong-field regime*, *Phys. Rev. D* **103** (2021) 083022 [[arXiv:2012.02209](#)] [[INSPIRE](#)].
- [4477] M. Fernando et al., *Massively Parallel Simulations of Binary Black Hole Intermediate-Mass-Ratio Inspirals*, *SIAM J. Sci. Comput.* **41** (2019) C97 [[arXiv:1807.06128](#)] [[INSPIRE](#)].
- [4478] N. Loutrel, S. Mukherjee, A. Maselli and P. Pani, *Analytical model of precessing binaries using post-Newtonian theory in the extreme mass-ratio limit: General formalism*, *Phys. Rev. D* **110** (2024) 024006 [[arXiv:2402.08883](#)] [[INSPIRE](#)].
- [4479] L. Küchler, G. Compère, L. Durkan and A. Pound, *Self-force framework for transition-to-plunge waveforms*, *SciPost Phys.* **17** (2024) 056 [[arXiv:2405.00170](#)] [[INSPIRE](#)].
- [4480] P. Bourg, A. Pound, S.D. Upton and R. Panosso Macedo, *Simple, efficient method of calculating the Detweiler-Whiting singular field to very high order*, *Phys. Rev. D* **110** (2024) 084007 [[arXiv:2404.10082](#)] [[INSPIRE](#)].
- [4481] P. Bourg et al., *Implementation of a Green-Hollands-Zimmerman-Teukolsky puncture scheme for gravitational self-force calculations*, *Phys. Rev. D* **110** (2024) 044007 [[arXiv:2403.12634](#)] [[INSPIRE](#)].
- [4482] A. Nagar et al., *Effective-one-body waveform model for noncircularized, planar, coalescing black hole binaries: The importance of radiation reaction*, *Phys. Rev. D* **110** (2024) 084001 [[arXiv:2404.05288](#)] [[INSPIRE](#)].
- [4483] A. Albertini, R. Gamba, A. Nagar and S. Bernuzzi, *Effective-one-body waveforms for extreme-mass-ratio binaries: Consistency with second-order gravitational self-force quasicircular results and extension to nonprecessing spins and eccentricity*, *Phys. Rev. D* **109** (2024) 044022 [[arXiv:2310.13578](#)] [[INSPIRE](#)].
- [4484] G. Carullo et al., *Unveiling the Merger Structure of Black Hole Binaries in Generic Planar Orbits*, *Phys. Rev. Lett.* **132** (2024) 101401 [[arXiv:2309.07228](#)] [[INSPIRE](#)].

- [4485] A. Placidi, P. Rettegno and A. Nagar, *Gravitational spin-orbit coupling through the third-subleading post-Newtonian order: Exploring spin-gauge flexibility*, *Phys. Rev. D* **109** (2024) 084065 [[arXiv:2401.12290](#)] [[INSPIRE](#)].
- [4486] J.E. Vines and E.E. Flanagan, *Post-1-Newtonian quadrupole tidal interactions in binary systems*, *Phys. Rev. D* **88** (2013) 024046 [[arXiv:1009.4919](#)] [[INSPIRE](#)].
- [4487] D. Bini, T. Damour and G. Faye, *Effective action approach to higher-order relativistic tidal interactions in binary systems and their effective one body description*, *Phys. Rev. D* **85** (2012) 124034 [[arXiv:1202.3565](#)] [[INSPIRE](#)].
- [4488] T. Damour, A. Nagar and L. Villain, *Measurability of the tidal polarizability of neutron stars in late-inspiral gravitational-wave signals*, *Phys. Rev. D* **85** (2012) 123007 [[arXiv:1203.4352](#)] [[INSPIRE](#)].
- [4489] B. Banihashemi and J. Vines, *Gravitomagnetic tidal effects in gravitational waves from neutron star binaries*, *Phys. Rev. D* **101** (2020) 064003 [[arXiv:1805.07266](#)] [[INSPIRE](#)].
- [4490] Q. Henry, G. Faye and L. Blanchet, *Tidal effects in the equations of motion of compact binary systems to next-to-next-to-leading post-Newtonian order*, *Phys. Rev. D* **101** (2020) 064047 [[arXiv:1912.01920](#)] [[INSPIRE](#)].
- [4491] Q. Henry, G. Faye and L. Blanchet, *Hamiltonian for tidal interactions in compact binary systems to next-to-next-to-leading post-Newtonian order*, *Phys. Rev. D* **102** (2020) 124074 [[arXiv:2009.12332](#)] [[INSPIRE](#)].
- [4492] P. Landry, *Rotational-tidal phasing of the binary neutron star waveform*, [arXiv:1805.01882](#) [[INSPIRE](#)].
- [4493] A. Nagar et al., *Nonlinear-in-spin effects in effective-one-body waveform models of spin-aligned, inspiralling, neutron star binaries*, *Phys. Rev. D* **99** (2019) 044007 [[arXiv:1812.07923](#)] [[INSPIRE](#)].
- [4494] D. Lai, *Resonant oscillations and tidal heating in coalescing binary neutron stars*, *Mon. Not. Roy. Astron. Soc.* **270** (1994) 611 [[astro-ph/9404062](#)] [[INSPIRE](#)].
- [4495] A. Reisenegger, *Multipole moments of stellar oscillation modes*, *Astrophys. J.* **432** (1994) 296 [[INSPIRE](#)].
- [4496] K.D. Kokkotas and G. Schaefer, *Tidal and tidal resonant effects in coalescing binaries*, *Mon. Not. Roy. Astron. Soc.* **275** (1995) 301 [[gr-qc/9502034](#)] [[INSPIRE](#)].
- [4497] W.C.G. Ho and D. Lai, *Resonant tidal excitations of rotating neutron stars in coalescing binaries*, *Mon. Not. Roy. Astron. Soc.* **308** (1999) 153 [[astro-ph/9812116](#)] [[INSPIRE](#)].
- [4498] T. Dietrich and T. Hinderer, *Comprehensive comparison of numerical relativity and effective-one-body results to inform improvements in waveform models for binary neutron star systems*, *Phys. Rev. D* **95** (2017) 124006 [[arXiv:1702.02053](#)] [[INSPIRE](#)].
- [4499] T. Venumadhav, A. Zimmerman and C.M. Hirata, *The stability of tidally deformed neutron stars to three- and four-mode coupling*, *Astrophys. J.* **781** (2014) 23 [[arXiv:1307.2890](#)] [[INSPIRE](#)].
- [4500] N.N. Weinberg, P. Arras and J. Burkart, *An instability due to the nonlinear coupling of  $p$ -modes to  $g$ -modes: Implications for coalescing neutron star binaries*, *Astrophys. J.* **769** (2013) 121 [[arXiv:1302.2292](#)] [[INSPIRE](#)].
- [4501] N.N. Weinberg, *Growth rate of the tidal  $p$ -mode  $g$ -mode instability in coalescing binary neutron stars*, *Astrophys. J.* **819** (2016) 109 [[arXiv:1509.06975](#)] [[INSPIRE](#)].

- [4502] B.S. Sathyaprakash and S.V. Dhurandhar, *Choice of filters for the detection of gravitational waves from coalescing binaries*, *Phys. Rev. D* **44** (1991) 3819 [INSPIRE].
- [4503] K. Kawaguchi et al., *Frequency-domain gravitational waveform models for inspiraling binary neutron stars*, *Phys. Rev. D* **97** (2018) 044044 [arXiv:1802.06518] [INSPIRE].
- [4504] T. Narikawa et al., *Reanalysis of the binary neutron star mergers GW170817 and GW190425 using numerical-relativity calibrated waveform models*, *Phys. Rev. Res.* **2** (2020) 043039 [arXiv:1910.08971] [INSPIRE].
- [4505] W. Kastaun and F. Ohme, *Numerical inside view of hypermassive remnant models for GW170817*, *Phys. Rev. D* **104** (2021) 023001 [arXiv:2103.01586] [INSPIRE].
- [4506] T. Whittaker et al., *Using machine learning to parametrize postmerger signals from binary neutron stars*, *Phys. Rev. D* **105** (2022) 124021 [arXiv:2201.06461] [INSPIRE].
- [4507] E. Thrane et al., *Long gravitational-wave transients and associated detection strategies for a network of terrestrial interferometers*, *Phys. Rev. D* **83** (2011) 083004 [arXiv:1012.2150] [INSPIRE].
- [4508] S. Suvorova et al., *Hidden Markov model tracking of continuous gravitational waves from a neutron star with wandering spin*, *Phys. Rev. D* **93** (2016) 123009 [arXiv:1606.02412] [INSPIRE].
- [4509] L. Sun and A. Melatos, *Application of hidden Markov model tracking to the search for long-duration transient gravitational waves from the remnant of the binary neutron star merger GW170817*, *Phys. Rev. D* **99** (2019) 123003 [arXiv:1810.03577] [INSPIRE].
- [4510] M. Oliver, D. Keitel and A.M. Sintes, *Adaptive transient Hough method for long-duration gravitational wave transients*, *Phys. Rev. D* **99** (2019) 104067 [arXiv:1901.01820] [INSPIRE].
- [4511] LSC collaboration, *Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO*, *Phys. Rev. D* **97** (2018) 082002 [arXiv:1801.07204] [INSPIRE].
- [4512] T. Dietrich et al., *Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the mass-ratio*, *Phys. Rev. D* **95** (2017) 024029 [arXiv:1607.06636] [INSPIRE].
- [4513] C. García-Quirós, S. Husa, M. Mateu-Lucena and A. Borchers, *Accelerating the evaluation of inspiral–merger–ringdown waveforms with adapted grids*, *Class. Quant. Grav.* **38** (2021) 015006 [arXiv:2001.10897] [INSPIRE].
- [4514] J. Tissino et al., *Combining effective-one-body accuracy and reduced-order-quadrature speed for binary neutron star merger parameter estimation with machine learning*, *Phys. Rev. D* **107** (2023) 084037 [arXiv:2210.15684] [INSPIRE].
- [4515] K. Chatziioannou, *Uncertainty limits on neutron star radius measurements with gravitational waves*, *Phys. Rev. D* **105** (2022) 084021 [arXiv:2108.12368] [INSPIRE].
- [4516] C. Chirenti, R. Gold and M.C. Miller, *Gravitational waves from f-modes excited by the inspiral of highly eccentric neutron star binaries*, *Astrophys. J.* **837** (2017) 67 [arXiv:1612.07097] [INSPIRE].
- [4517] M. Vallisneri, *Prospects for gravitational wave observations of neutron star tidal disruption in neutron star / black hole binaries*, *Phys. Rev. Lett.* **84** (2000) 3519 [gr-qc/9912026] [INSPIRE].
- [4518] M. Shibata, K. Kyutoku, T. Yamamoto and K. Taniguchi, *Gravitational waves from black hole-neutron star binaries I: Classification of waveforms*, *Phys. Rev. D* **79** (2009) 044030 [Erratum *ibid.* **85** (2012) 127502] [arXiv:0902.0416] [INSPIRE].

- [4519] M. Shibata and K. Taniguchi, *Coalescence of Black Hole-Neutron Star Binaries*, *Living Rev. Rel.* **14** (2011) 6 [INSPIRE].
- [4520] B.D. Lackey et al., *Extracting equation of state parameters from black hole-neutron star mergers. I. Nonspinning black holes*, *Phys. Rev. D* **85** (2012) 044061 [arXiv:1109.3402] [INSPIRE].
- [4521] F. Pannarale, E. Berti, K. Kyutoku and M. Shibata, *Nonspinning black hole-neutron star mergers: a model for the amplitude of gravitational waveforms*, *Phys. Rev. D* **88** (2013) 084011 [arXiv:1307.5111] [INSPIRE].
- [4522] S. Bernuzzi, A. Nagar, T. Dietrich and T. Damour, *Modeling the Dynamics of Tidally Interacting Binary Neutron Stars up to the Merger*, *Phys. Rev. Lett.* **114** (2015) 161103 [arXiv:1412.4553] [INSPIRE].
- [4523] F. Gittins, R. Matur, N. Andersson and I. Hawke, *Problematic systematics in neutron-star merger simulations*, *Phys. Rev. D* **111** (2025) 023049 [arXiv:2409.13468] [INSPIRE].
- [4524] Z.B. Etienne, Y.T. Liu, V. Paschalidis and S.L. Shapiro, *General relativistic simulations of black hole-neutron star mergers: Effects of magnetic fields*, *Phys. Rev. D* **85** (2012) 064029 [arXiv:1112.0568] [INSPIRE].
- [4525] Y. Huang et al., *Statistical and systematic uncertainties in extracting the source properties of neutron star–black hole binaries with gravitational waves*, *Phys. Rev. D* **103** (2021) 083001 [arXiv:2005.11850] [INSPIRE].
- [4526] F. Di Clemente et al., *Strange quark matter as dark matter: 40 yr later, a reappraisal*, *Mon. Not. Roy. Astron. Soc.* **537** (2025) 1056 [arXiv:2404.12094] [INSPIRE].
- [4527] S.R. Coleman, *Q-balls*, *Nucl. Phys. B* **262** (1985) 263 [Addendum *ibid.* **269** (1986) 744] [INSPIRE].
- [4528] T.D. Lee and Y. Pang, *Fermion Soliton Stars and Black Holes*, *Phys. Rev. D* **35** (1987) 3678 [INSPIRE].
- [4529] L. Del Grosso, G. Franciolini, P. Pani and A. Urbano, *Fermion soliton stars*, *Phys. Rev. D* **108** (2023) 044024 [arXiv:2301.08709] [INSPIRE].
- [4530] L. Del Grosso and P. Pani, *Fermion soliton stars with asymmetric vacua*, *Phys. Rev. D* **108** (2023) 064042 [arXiv:2308.15921] [INSPIRE].
- [4531] G. Morras et al., *Analysis of a subsolar-mass compact binary candidate from the second observing run of Advanced LIGO*, *Phys. Dark Univ.* **42** (2023) 101285 [arXiv:2301.11619] [INSPIRE].
- [4532] J.M. Diego, *Constraining the abundance of primordial black holes with gravitational lensing of gravitational waves at LIGO frequencies*, *Phys. Rev. D* **101** (2020) 123512 [arXiv:1911.05736] [INSPIRE].
- [4533] R.O. Hansen, *Postnewtonian gravitational radiation from point masses in a hyperbolic kepler orbit*, *Phys. Rev. D* **5** (1972) 1021 [INSPIRE].
- [4534] M. Turner, *Gravitational radiation from point-masses in unbound orbits — Newtonian results*, *Astrophys. J.* **216** (1977) 610.
- [4535] M. Turner and C.M. Will, *Post-Newtonian gravitational bremsstrahlung*, *Astrophys. J.* **220** (1978) 1107 [INSPIRE].
- [4536] S. Capozziello et al., *Gravitational waves from hyperbolic encounters*, *Mod. Phys. Lett. A* **23** (2008) 99 [arXiv:0801.0122] [INSPIRE].

- [4537] L. De Vittori, P. Jetzer and A. Klein, *Gravitational wave energy spectrum of hyperbolic encounters*, *Phys. Rev. D* **86** (2012) 044017 [[arXiv:1207.5359](#)] [[INSPIRE](#)].
- [4538] D. Bini and T. Damour, *Gravitational radiation reaction along general orbits in the effective one-body formalism*, *Phys. Rev. D* **86** (2012) 124012 [[arXiv:1210.2834](#)] [[INSPIRE](#)].
- [4539] T. Damour et al., *Strong-Field Scattering of Two Black Holes: Numerics Versus Analytics*, *Phys. Rev. D* **89** (2014) 081503 [[arXiv:1402.7307](#)] [[INSPIRE](#)].
- [4540] L. De Vittori, A. Gopakumar, A. Gupta and P. Jetzer, *Gravitational waves from spinning compact binaries in hyperbolic orbits*, *Phys. Rev. D* **90** (2014) 124066 [[arXiv:1410.6311](#)] [[INSPIRE](#)].
- [4541] G. Cho, A. Gopakumar, M. Haney and H.M. Lee, *Gravitational waves from compact binaries in post-Newtonian accurate hyperbolic orbits*, *Phys. Rev. D* **98** (2018) 024039 [[arXiv:1807.02380](#)] [[INSPIRE](#)].
- [4542] M. Gröbner et al., *A note on the gravitational wave energy spectrum of parabolic and hyperbolic encounters*, *Class. Quant. Grav.* **37** (2020) 067002 [[arXiv:2001.05187](#)] [[INSPIRE](#)].
- [4543] S. Hopper, A. Nagar and P. Rettengo, *Strong-field scattering of two spinning black holes: Numerics versus analytics*, *Phys. Rev. D* **107** (2023) 124034 [[arXiv:2204.10299](#)] [[INSPIRE](#)].
- [4544] M. Caldarola, S. Kuroyanagi, S. Nesseris and J. Garcia-Bellido, *Effects of orbital precession on hyperbolic encounters*, *Phys. Rev. D* **109** (2024) 064001 [[arXiv:2307.00915](#)] [[INSPIRE](#)].
- [4545] A. Roskill, M. Caldarola, S. Kuroyanagi and S. Nesseris, *Mass octupole and current quadrupole corrections to gravitational wave emission from close hyperbolic encounters*, *Class. Quant. Grav.* **41** (2024) 235002 [[arXiv:2310.07439](#)] [[INSPIRE](#)].
- [4546] M. Teuscher, A. Barrau and K. Martineau, *Elementary considerations on gravitational waves from hyperbolic encounters*, *Gen. Rel. Grav.* **56** (2024) 89 [[arXiv:2402.10706](#)] [[INSPIRE](#)].
- [4547] G. Morrás, J. García-Bellido and S. Nesseris, *Search for black hole hyperbolic encounters with gravitational wave detectors*, *Phys. Dark Univ.* **35** (2022) 100932 [[arXiv:2110.08000](#)] [[INSPIRE](#)].
- [4548] S. Bini et al., *Search for hyperbolic encounters of compact objects in the third LIGO-Virgo-KAGRA observing run*, *Phys. Rev. D* **109** (2024) 042009 [[arXiv:2311.06630](#)] [[INSPIRE](#)].
- [4549] S. Dandapat et al., *Gravitational waves from black-hole encounters: Prospects for ground and galaxy-based observatories*, *Phys. Rev. D* **108** (2023) 024013 [[arXiv:2305.19318](#)] [[INSPIRE](#)].
- [4550] M. Kerachian, S. Mukherjee, G. Lukes-Gerakopoulos and S. Mitra, *Detectability of stochastic gravitational wave background from weakly hyperbolic encounters*, *Astron. Astrophys.* **684** (2024) A17 [[arXiv:2311.16634](#)] [[INSPIRE](#)].
- [4551] E. Codazzo, M. Di Giovanni and J. Harms, *Gravitational wave signals from long-lasting binary–single black hole encounters*, *Eur. Phys. J. Plus* **139** (2024) 40 [[arXiv:2311.18032](#)] [[INSPIRE](#)].
- [4552] N. Turok, *Grand Unified Strings and Galaxy Formation*, *Nucl. Phys. B* **242** (1984) 520 [[INSPIRE](#)].
- [4553] J.J. Blanco-Pillado and K.D. Olum, *Form of cosmic string cusps*, *Phys. Rev. D* **59** (1999) 063508 [*Erratum ibid.* **103** (2021) 029902] [[gr-qc/9810005](#)] [[INSPIRE](#)].
- [4554] K.D. Olum and J.J. Blanco-Pillado, *Field theory simulation of Abelian Higgs cosmic string cusps*, *Phys. Rev. D* **60** (1999) 023503 [[gr-qc/9812040](#)] [[INSPIRE](#)].

- [4555] T. Damour and A. Vilenkin, *Gravitational radiation from cosmic (super)strings: Bursts, stochastic background, and observational windows*, *Phys. Rev. D* **71** (2005) 063510 [[hep-th/0410222](#)] [[INSPIRE](#)].
- [4556] P. Auclair, D.A. Steer and T. Vachaspati, *Repeated gravitational wave bursts from cosmic strings*, *Phys. Rev. D* **108** (2023) 123540 [[arXiv:2306.08331](#)] [[INSPIRE](#)].
- [4557] S.W. Hawking, *Black Holes From Cosmic Strings*, *Phys. Lett. B* **231** (1989) 237 [[INSPIRE](#)].
- [4558] S.W. Hawking, *Gravitational radiation from collapsing cosmic string loops*, *Phys. Lett. B* **246** (1990) 36 [[INSPIRE](#)].
- [4559] T. Helfer, J.C. Aurrekoetxea and E.A. Lim, *Cosmic String Loop Collapse in Full General Relativity*, *Phys. Rev. D* **99** (2019) 104028 [[arXiv:1808.06678](#)] [[INSPIRE](#)].
- [4560] J.C. Aurrekoetxea, T. Helfer and E.A. Lim, *Coherent Gravitational Waveforms and Memory from Cosmic String Loops*, *Class. Quant. Grav.* **37** (2020) 204001 [[arXiv:2002.05177](#)] [[INSPIRE](#)].
- [4561] J.C. Aurrekoetxea, C. Hoy and M. Hannam, *Revisiting the Cosmic String Origin of GW190521*, *Phys. Rev. Lett.* **132** (2024) 181401 [[arXiv:2312.03860](#)] [[INSPIRE](#)].
- [4562] A. Polnarev and R. Zembowicz, *Formation of Primordial Black Holes by Cosmic Strings*, *Phys. Rev. D* **43** (1991) 1106 [[INSPIRE](#)].
- [4563] R.N. Hansen, M. Christensen and A.L. Larsen, *Cosmic string loops collapsing to black holes*, *Int. J. Mod. Phys. A* **15** (2000) 4433 [[gr-qc/9902048](#)] [[INSPIRE](#)].
- [4564] L. Del Grosso, P. Pani and A. Urbano, *Compact objects in and beyond the standard model from nonperturbative vacuum scalarization*, *Phys. Rev. D* **109** (2024) 095006 [[arXiv:2401.06716](#)] [[INSPIRE](#)].
- [4565] T. Damour, M. Soffel and C.-M. Xu, *General relativistic celestial mechanics. 2. Translational equations of motion*, *Phys. Rev. D* **45** (1992) 1017 [[INSPIRE](#)].
- [4566] R.F. Dieckrichs et al., *Tidal deformability of fermion-boson stars: Neutron stars admixed with ultralight dark matter*, *Phys. Rev. D* **108** (2023) 064009 [[arXiv:2303.04089](#)] [[INSPIRE](#)].
- [4567] J. García-Bellido and S. Nesseris, *Gravitational wave energy emission and detection rates of Primordial Black Hole hyperbolic encounters*, *Phys. Dark Univ.* **21** (2018) 61 [[arXiv:1711.09702](#)] [[INSPIRE](#)].
- [4568] J.J. Blanco-Pillado, K.D. Olum and B. Shlaer, *Cosmic string loop shapes*, *Phys. Rev. D* **92** (2015) 063528 [[arXiv:1508.02693](#)] [[INSPIRE](#)].
- [4569] K.N. Yakunin et al., *Gravitational wave signatures of ab initio two-dimensional core collapse supernova explosion models for 12–25  $M_{\odot}$  stars*, *Phys. Rev. D* **92** (2015) 084040 [[arXiv:1505.05824](#)] [[INSPIRE](#)].
- [4570] T. Kuroda, K. Kotake and T. Takiwaki, *A new Gravitational-wave Signature From Standing Accretion Shock Instability in Supernovae*, *Astrophys. J. Lett.* **829** (2016) L14 [[arXiv:1605.09215](#)] [[INSPIRE](#)].
- [4571] B. Müller, *Gravitational Waves from Core-Collapse Supernovae*, [arXiv:1703.04633](#) [[INSPIRE](#)].
- [4572] T. Takiwaki and K. Kotake, *Anisotropic emission of neutrino and gravitational-wave signals from rapidly rotating core-collapse supernovae*, *Mon. Not. Roy. Astron. Soc.* **475** (2018) L91 [[arXiv:1711.01905](#)] [[INSPIRE](#)].

- [4573] K. Hayama, T. Kuroda, K. Kotake and T. Takiwaki, *Circular polarization of gravitational waves from non-rotating supernova cores: a new probe into the pre-explosion hydrodynamics*, *Mon. Not. Roy. Astron. Soc.* **477** (2018) L96 [[arXiv:1802.03842](#)] [[INSPIRE](#)].
- [4574] A. Burrows and J. Hayes, *Pulsar recoil and gravitational radiation due to asymmetrical stellar collapse and explosion*, *Phys. Rev. Lett.* **76** (1996) 352 [[astro-ph/9511106](#)] [[INSPIRE](#)].
- [4575] M. Mukhopadhyay, C. Cardona and C. Lunardini, *The neutrino gravitational memory from a core collapse supernova: phenomenology and physics potential*, *JCAP* **07** (2021) 055 [[arXiv:2105.05862](#)] [[INSPIRE](#)].
- [4576] M. Mukhopadhyay, Z. Lin and C. Lunardini, *Memory-triggered supernova neutrino detection*, *Phys. Rev. D* **106** (2022) 043020 [[arXiv:2110.14657](#)] [[INSPIRE](#)].
- [4577] P.G. Bergmann, *Comments on the scalar tensor theory*, *Int. J. Theor. Phys.* **1** (1968) 25 [[INSPIRE](#)].
- [4578] R.V. Wagoner, *Scalar tensor theory and gravitational waves*, *Phys. Rev. D* **1** (1970) 3209 [[INSPIRE](#)].
- [4579] C.A.R. Herdeiro and E. Radu, *Asymptotically flat black holes with scalar hair: a review*, *Int. J. Mod. Phys. D* **24** (2015) 1542014 [[arXiv:1504.08209](#)] [[INSPIRE](#)].
- [4580] T. Jacobson, *Primordial black hole evolution in tensor scalar cosmology*, *Phys. Rev. Lett.* **83** (1999) 2699 [[astro-ph/9905303](#)] [[INSPIRE](#)].
- [4581] K. Clough, P.G. Ferreira and M. Lagos, *Growth of massive scalar hair around a Schwarzschild black hole*, *Phys. Rev. D* **100** (2019) 063014 [[arXiv:1904.12783](#)] [[INSPIRE](#)].
- [4582] T. Damour and G. Esposito-Farese, *Tensor multiscalar theories of gravitation*, *Class. Quant. Grav.* **9** (1992) 2093 [[INSPIRE](#)].
- [4583] S. Mirshekari and C.M. Will, *Compact binary systems in scalar-tensor gravity: Equations of motion to 2.5 post-Newtonian order*, *Phys. Rev. D* **87** (2013) 084070 [[arXiv:1301.4680](#)] [[INSPIRE](#)].
- [4584] R.N. Lang, *Compact binary systems in scalar-tensor gravity. II. Tensor gravitational waves to second post-Newtonian order*, *Phys. Rev. D* **89** (2014) 084014 [[arXiv:1310.3320](#)] [[INSPIRE](#)].
- [4585] R.N. Lang, *Compact binary systems in scalar-tensor gravity. III. Scalar waves and energy flux*, *Phys. Rev. D* **91** (2015) 084027 [[arXiv:1411.3073](#)] [[INSPIRE](#)].
- [4586] L. Bernard, L. Bernard and L. Bernard, *Dipolar tidal effects in scalar-tensor theories*, *Phys. Rev. D* **101** (2020) 021501 [Erratum *ibid.* **107** (2023) 069901] [[arXiv:1906.10735](#)] [[INSPIRE](#)].
- [4587] O. Schön and D.D. Doneva, *Tensor-multiscalar gravity: Equations of motion to 2.5 post-Newtonian order*, *Phys. Rev. D* **105** (2022) 064034 [[arXiv:2112.07388](#)] [[INSPIRE](#)].
- [4588] L. Bernard, E. Dones and S. Mougiakakos, *Tidal effects up to next-to-next-to-leading post-Newtonian order in massless scalar-tensor theories*, *Phys. Rev. D* **109** (2024) 044006 [[arXiv:2310.19679](#)] [[INSPIRE](#)].
- [4589] K. Yagi, L.C. Stein, N. Yunes and T. Tanaka, *Post-Newtonian, Quasi-Circular Binary Inspirals in Quadratic Modified Gravity*, *Phys. Rev. D* **85** (2012) 064022 [Erratum *ibid.* **93** (2016) 029902] [[arXiv:1110.5950](#)] [[INSPIRE](#)].
- [4590] N. Loutrel, T. Tanaka and N. Yunes, *Spin-Precessing Black Hole Binaries in Dynamical Chern-Simons Gravity*, *Phys. Rev. D* **98** (2018) 064020 [[arXiv:1806.07431](#)] [[INSPIRE](#)].
- [4591] B. Shiralilou et al., *Nonlinear curvature effects in gravitational waves from inspiralling black hole binaries*, *Phys. Rev. D* **103** (2021) L121503 [[arXiv:2012.09162](#)] [[INSPIRE](#)].

- [4592] B. Shiralilou et al., *Post-Newtonian gravitational and scalar waves in scalar-Gauss-Bonnet gravity*, *Class. Quant. Grav.* **39** (2022) 035002 [[arXiv:2105.13972](#)] [[INSPIRE](#)].
- [4593] N. Loutrel and N. Yunes, *Parity violation in spin-precessing binaries: Gravitational waves from the inspiral of black holes in dynamical Chern-Simons gravity*, *Phys. Rev. D* **106** (2022) 064009 [[arXiv:2205.02675](#)] [[INSPIRE](#)].
- [4594] Z. Lyu, N. Jiang and K. Yagi, *Constraints on Einstein-dilation-Gauss-Bonnet gravity from black hole-neutron star gravitational wave events*, *Phys. Rev. D* **105** (2022) 064001 [Erratum *ibid.* **106** (2022) 069901] [[arXiv:2201.02543](#)] [[INSPIRE](#)].
- [4595] F.-L. Julié, *On the motion of hairy black holes in Einstein-Maxwell-dilaton theories*, *JCAP* **01** (2018) 026 [[arXiv:1711.10769](#)] [[INSPIRE](#)].
- [4596] N. Sennett et al., *Gravitational-Wave Constraints on an Effective Field-Theory Extension of General Relativity*, *Phys. Rev. D* **102** (2020) 044056 [[arXiv:1912.09917](#)] [[INSPIRE](#)].
- [4597] M. Accettulli Huber, A. Brandhuber, S. De Angelis and G. Travaglini, *From amplitudes to gravitational radiation with cubic interactions and tidal effects*, *Phys. Rev. D* **103** (2021) 045015 [[arXiv:2012.06548](#)] [[INSPIRE](#)].
- [4598] M. Ponce, C. Palenzuela, E. Barausse and L. Lehner, *Electromagnetic outflows in a class of scalar-tensor theories: Binary neutron star coalescence*, *Phys. Rev. D* **91** (2015) 084038 [[arXiv:1410.0638](#)] [[INSPIRE](#)].
- [4599] J. Bamber, J.C. Aurrekoetxea, K. Clough and P.G. Ferreira, *Black hole merger simulations in wave dark matter environments*, *Phys. Rev. D* **107** (2023) 024035 [[arXiv:2210.09254](#)] [[INSPIRE](#)].
- [4600] J.C. Aurrekoetxea, K. Clough, J. Bamber and P.G. Ferreira, *Effect of Wave Dark Matter on Equal Mass Black Hole Mergers*, *Phys. Rev. Lett.* **132** (2024) 211401 [[arXiv:2311.18156](#)] [[INSPIRE](#)].
- [4601] J. Cayuso, N. Ortiz and L. Lehner, *Fixing extensions to general relativity in the nonlinear regime*, *Phys. Rev. D* **96** (2017) 084043 [[arXiv:1706.07421](#)] [[INSPIRE](#)].
- [4602] G. Allwright and L. Lehner, *Towards the nonlinear regime in extensions to GR: assessing possible options*, *Class. Quant. Grav.* **36** (2019) 084001 [[arXiv:1808.07897](#)] [[INSPIRE](#)].
- [4603] G. Lara, M. Bezares and E. Barausse, *UV completions, fixing the equations, and nonlinearities in k-essence*, *Phys. Rev. D* **105** (2022) 064058 [[arXiv:2112.09186](#)] [[INSPIRE](#)].
- [4604] R. Cayuso, P. Figueras, T. França and L. Lehner, *Self-Consistent Modeling of Gravitational Theories beyond General Relativity*, *Phys. Rev. Lett.* **131** (2023) 111403 [[arXiv:2303.07246](#)] [[INSPIRE](#)].
- [4605] R. Cayuso, A. Kuntz, M. Bezares and E. Barausse, *Scalar emission from neutron star-black hole binaries in scalar-tensor theories with kinetic screening*, *Phys. Rev. D* **110** (2024) 104071 [[arXiv:2410.16367](#)] [[INSPIRE](#)].
- [4606] A. Held and H. Lim, *Nonlinear evolution of quadratic gravity in 3+1 dimensions*, *Phys. Rev. D* **108** (2023) 104025 [[arXiv:2306.04725](#)] [[INSPIRE](#)].
- [4607] M. Corman, L. Lehner, W.E. East and G. Dideron, *Nonlinear studies of modifications to general relativity: Comparing different approaches*, *Phys. Rev. D* **110** (2024) 084048 [[arXiv:2405.15581](#)] [[INSPIRE](#)].
- [4608] J.L. Blázquez-Salcedo et al., *Axial perturbations of the scalarized Einstein-Gauss-Bonnet black holes*, *Phys. Rev. D* **101** (2020) 104006 [[arXiv:2003.02862](#)] [[INSPIRE](#)].

- [4609] L. Pierini and L. Gualtieri, *Quasi-normal modes of rotating black holes in Einstein-dilaton Gauss-Bonnet gravity: the first order in rotation*, *Phys. Rev. D* **103** (2021) 124017 [[arXiv:2103.09870](#)] [[INSPIRE](#)].
- [4610] T. Evstafyeva, M. Agathos and J.L. Ripley, *Measuring the ringdown scalar polarization of gravitational waves in Einstein-scalar-Gauss-Bonnet gravity*, *Phys. Rev. D* **107** (2023) 124010 [[arXiv:2212.11359](#)] [[INSPIRE](#)].
- [4611] M. Srivastava, Y. Chen and S. Shankaranarayanan, *Analytical computation of quasinormal modes of slowly rotating black holes in dynamical Chern-Simons gravity*, *Phys. Rev. D* **104** (2021) 064034 [[arXiv:2106.06209](#)] [[INSPIRE](#)].
- [4612] O.J. Tattersall, *Quasi-Normal Modes of Hairy Scalar Tensor Black Holes: Odd Parity*, *Class. Quant. Grav.* **37** (2020) 115007 [[arXiv:1911.07593](#)] [[INSPIRE](#)].
- [4613] C. de Rham, J. Francfort and J. Zhang, *Black Hole Gravitational Waves in the Effective Field Theory of Gravity*, *Phys. Rev. D* **102** (2020) 024079 [[arXiv:2005.13923](#)] [[INSPIRE](#)].
- [4614] A. Hussain and A. Zimmerman, *Approach to computing spectral shifts for black holes beyond Kerr*, *Phys. Rev. D* **106** (2022) 104018 [[arXiv:2206.10653](#)] [[INSPIRE](#)].
- [4615] P.A. Cano, K. Fransen, T. Hertog and S. Maenaut, *Universal Teukolsky equations and black hole perturbations in higher-derivative gravity*, *Phys. Rev. D* **108** (2023) 024040 [[arXiv:2304.02663](#)] [[INSPIRE](#)].
- [4616] D. Li et al., *Isospectrality breaking in the Teukolsky formalism*, *Phys. Rev. D* **109** (2024) 104026 [[arXiv:2310.06033](#)] [[INSPIRE](#)].
- [4617] P. Wagle, D. Li, Y. Chen and N. Yunes, *Perturbations of spinning black holes in dynamical Chern-Simons gravity: Slow rotation equations*, *Phys. Rev. D* **109** (2024) 104029 [[arXiv:2311.07706](#)] [[INSPIRE](#)].
- [4618] A.K.-W. Chung, P. Wagle and N. Yunes, *Spectral method for metric perturbations of black holes: Kerr background case in general relativity*, *Phys. Rev. D* **109** (2024) 044072 [[arXiv:2312.08435](#)] [[INSPIRE](#)].
- [4619] J.L. Blázquez-Salcedo, F.S. Khoo, J. Kunz and L.M. González-Romero, *Quasinormal modes of Kerr black holes using a spectral decomposition of the metric perturbations*, *Phys. Rev. D* **109** (2024) 064028 [[arXiv:2312.10754](#)] [[INSPIRE](#)].
- [4620] A.K.-W. Chung and N. Yunes, *Ringling Out General Relativity: Quasinormal Mode Frequencies for Black Holes of Any Spin in Modified Gravity*, *Phys. Rev. Lett.* **133** (2024) 181401 [[arXiv:2405.12280](#)] [[INSPIRE](#)].
- [4621] A.K.-W. Chung and N. Yunes, *Quasinormal mode frequencies and gravitational perturbations of black holes with any subextremal spin in modified gravity through METRICS: The scalar-Gauss-Bonnet gravity case*, *Phys. Rev. D* **110** (2024) 064019 [[arXiv:2406.11986](#)] [[INSPIRE](#)].
- [4622] F.-L. Julié, *Reducing the two-body problem in scalar-tensor theories to the motion of a test particle: a scalar-tensor effective-one-body approach*, *Phys. Rev. D* **97** (2018) 024047 [[arXiv:1709.09742](#)] [[INSPIRE](#)].
- [4623] N. Cornish, L. Sampson, N. Yunes and F. Pretorius, *Gravitational Wave Tests of General Relativity with the Parameterized Post-Einsteinian Framework*, *Phys. Rev. D* **84** (2011) 062003 [[arXiv:1105.2088](#)] [[INSPIRE](#)].
- [4624] N. Loutrel, P. Pani and N. Yunes, *Parametrized post-Einsteinian framework for precessing binaries*, *Phys. Rev. D* **107** (2023) 044046 [[arXiv:2210.10571](#)] [[INSPIRE](#)].

- [4625] L. Jenks, L. Choi, M. Lagos and N. Yunes, *Parametrized parity violation in gravitational wave propagation*, *Phys. Rev. D* **108** (2023) 044023 [[arXiv:2305.10478](#)] [[INSPIRE](#)].
- [4626] A.K. Mehta et al., *Tests of general relativity with gravitational-wave observations using a flexible theory-independent method*, *Phys. Rev. D* **107** (2023) 044020 [[arXiv:2203.13937](#)] [[INSPIRE](#)].
- [4627] E. Maggio, H.O. Silva, A. Buonanno and A. Ghosh, *Tests of general relativity in the nonlinear regime: A parametrized plunge-merger-ringdown gravitational waveform model*, *Phys. Rev. D* **108** (2023) 024043 [[arXiv:2212.09655](#)] [[INSPIRE](#)].
- [4628] A. Ghosh, R. Brito and A. Buonanno, *Constraints on quasinormal-mode frequencies with LIGO-Virgo binary-black-hole observations*, *Phys. Rev. D* **103** (2021) 124041 [[arXiv:2104.01906](#)] [[INSPIRE](#)].
- [4629] H.O. Silva, A. Ghosh and A. Buonanno, *Black-hole ringdown as a probe of higher-curvature gravity theories*, *Phys. Rev. D* **107** (2023) 044030 [[arXiv:2205.05132](#)] [[INSPIRE](#)].
- [4630] A. Maselli, P. Pani, L. Gualtieri and E. Berti, *Parametrized ringdown spin expansion coefficients: a data-analysis framework for black-hole spectroscopy with multiple events*, *Phys. Rev. D* **101** (2020) 024043 [[arXiv:1910.12893](#)] [[INSPIRE](#)].
- [4631] A. Maselli et al., *Black hole spectroscopy beyond Kerr: Agnostic and theory-based tests with next-generation interferometers*, *Phys. Rev. D* **109** (2024) 064060 [[arXiv:2311.14803](#)] [[INSPIRE](#)].
- [4632] O. Sarbach, E. Barausse and J.A. Preciado-López, *Well-posed Cauchy formulation for Einstein-ether theory*, *Class. Quant. Grav.* **36** (2019) 165007 [[arXiv:1902.05130](#)] [[INSPIRE](#)].
- [4633] D. Garfinkle, C. Eling and T. Jacobson, *Numerical simulations of gravitational collapse in Einstein-aether theory*, *Phys. Rev. D* **76** (2007) 024003 [[gr-qc/0703093](#)] [[INSPIRE](#)].
- [4634] F. Torsello, M. Kocic, M. Högåås and E. Mörtzell, *Covariant BSSN formulation in bimetric relativity*, *Class. Quant. Grav.* **37** (2020) 025013 [*Erratum ibid.* **37** (2020) 079501] [[arXiv:1904.07869](#)] [[INSPIRE](#)].
- [4635] M. Kocic, F. Torsello, M. Högåås and E. Mörtzell, *Initial data and first evolutions of dust clouds in bimetric relativity*, *Class. Quant. Grav.* **37** (2020) 165010 [[arXiv:1904.08617](#)] [[INSPIRE](#)].
- [4636] C. de Rham, J. Kozuszek, A.J. Tolley and T. Wiseman, *Dynamical formulation of ghost-free massive gravity*, *Phys. Rev. D* **108** (2023) 084052 [[arXiv:2302.04876](#)] [[INSPIRE](#)].
- [4637] N.J. Cornish, *Fast Fisher Matrices and Lazy Likelihoods*, [arXiv:1007.4820](#) [[INSPIRE](#)].
- [4638] B. Zackay, L. Dai and T. Venumadhav, *Relative Binning and Fast Likelihood Evaluation for Gravitational Wave Parameter Estimation*, [arXiv:1806.08792](#) [[INSPIRE](#)].
- [4639] N.J. Cornish, *Heterodyned likelihood for rapid gravitational wave parameter inference*, *Phys. Rev. D* **104** (2021) 104054 [[arXiv:2109.02728](#)] [[INSPIRE](#)].
- [4640] N. Leslie, L. Dai and G. Pratten, *Mode-by-mode relative binning: Fast likelihood estimation for gravitational waveforms with spin-orbit precession and multiple harmonics*, *Phys. Rev. D* **104** (2021) 123030 [[arXiv:2109.09872](#)] [[INSPIRE](#)].
- [4641] H. Antil et al., *Two-step greedy algorithm for reduced order quadratures*, *J. Sci. Comput.* **57** (2013) 604 [[arXiv:1210.0577](#)] [[INSPIRE](#)].
- [4642] P. Canizares, S.E. Field, J.R. Gair and M. Tiglio, *Gravitational wave parameter estimation with compressed likelihood evaluations*, *Phys. Rev. D* **87** (2013) 124005 [[arXiv:1304.0462](#)] [[INSPIRE](#)].

- [4643] R. Smith et al., *Fast and accurate inference on gravitational waves from precessing compact binaries*, *Phys. Rev. D* **94** (2016) 044031 [[arXiv:1604.08253](#)] [[INSPIRE](#)].
- [4644] S. Vinciguerra, J. Veitch and I. Mandel, *Accelerating gravitational wave parameter estimation with multi-band template interpolation*, *Class. Quant. Grav.* **34** (2017) 115006 [[arXiv:1703.02062](#)] [[INSPIRE](#)].
- [4645] S. Morisaki, *Accelerating parameter estimation of gravitational waves from compact binary coalescence using adaptive frequency resolutions*, *Phys. Rev. D* **104** (2021) 044062 [[arXiv:2104.07813](#)] [[INSPIRE](#)].
- [4646] Y. Bouffanais and E.K. Porter, *Bayesian inference for binary neutron star inspirals using a Hamiltonian Monte Carlo algorithm*, *Phys. Rev. D* **100** (2019) 104023 [[arXiv:1810.07443](#)] [[INSPIRE](#)].
- [4647] S.R. Green and J. Gair, *Complete parameter inference for GW150914 using deep learning*, *Mach. Learn. Sci. Tech.* **2** (2021) 03LT01 [[arXiv:2008.03312](#)] [[INSPIRE](#)].
- [4648] M. Dax et al., *Real-Time Gravitational Wave Science with Neural Posterior Estimation*, *Phys. Rev. Lett.* **127** (2021) 241103 [[arXiv:2106.12594](#)] [[INSPIRE](#)].
- [4649] M. Dax et al., *Neural Importance Sampling for Rapid and Reliable Gravitational-Wave Inference*, *Phys. Rev. Lett.* **130** (2023) 171403 [[arXiv:2210.05686](#)] [[INSPIRE](#)].
- [4650] S.E. Field et al., *Reduced basis catalogs for gravitational wave templates*, *Phys. Rev. Lett.* **106** (2011) 221102 [[arXiv:1101.3765](#)] [[INSPIRE](#)].
- [4651] K. Cannon, C. Hanna and D. Keppel, *Interpolating compact binary waveforms using the singular value decomposition*, *Phys. Rev. D* **85** (2012) 081504 [[arXiv:1108.5618](#)] [[INSPIRE](#)].
- [4652] S. Droz, D.J. Knapp, E. Poisson and B.J. Owen, *Gravitational waves from inspiraling compact binaries: Validity of the stationary phase approximation to the Fourier transform*, *Phys. Rev. D* **59** (1999) 124016 [[gr-qc/9901076](#)] [[INSPIRE](#)].
- [4653] A. Klein, N. Cornish and N. Yunes, *Fast Frequency-domain Waveforms for Spin-Precessing Binary Inspirals*, *Phys. Rev. D* **90** (2014) 124029 [[arXiv:1408.5158](#)] [[INSPIRE](#)].
- [4654] R.J.E. Smith et al., *Towards Rapid Parameter Estimation on Gravitational Waves from Compact Binaries using Interpolated Waveforms*, *Phys. Rev. D* **87** (2013) 122002 [[arXiv:1211.1254](#)] [[INSPIRE](#)].
- [4655] K. Cannon et al., *Interpolation in waveform space: enhancing the accuracy of gravitational waveform families using numerical relativity*, *Phys. Rev. D* **87** (2013) 044008 [[arXiv:1211.7095](#)] [[INSPIRE](#)].
- [4656] M. Pürrer, *Frequency domain reduced order models for gravitational waves from aligned-spin compact binaries*, *Class. Quant. Grav.* **31** (2014) 195010 [[arXiv:1402.4146](#)] [[INSPIRE](#)].
- [4657] M. Pürrer, *Frequency domain reduced order model of aligned-spin effective-one-body waveforms with generic mass-ratios and spins*, *Phys. Rev. D* **93** (2016) 064041 [[arXiv:1512.02248](#)] [[INSPIRE](#)].
- [4658] P. Canizares et al., *Accelerated gravitational-wave parameter estimation with reduced order modeling*, *Phys. Rev. Lett.* **114** (2015) 071104 [[arXiv:1404.6284](#)] [[INSPIRE](#)].
- [4659] B.D. Lackey et al., *Effective-one-body waveforms for binary neutron stars using surrogate models*, *Phys. Rev. D* **95** (2017) 104036 [[arXiv:1610.04742](#)] [[INSPIRE](#)].
- [4660] S. Marsat, J.G. Baker and T. Dal Canton, *Exploring the Bayesian parameter estimation of binary black holes with LISA*, *Phys. Rev. D* **103** (2021) 083011 [[arXiv:2003.00357](#)] [[INSPIRE](#)].

- [4661] B. Gadre et al., *Fully precessing higher-mode surrogate model of effective-one-body waveforms*, *Phys. Rev. D* **110** (2024) 124038 [[arXiv:2203.00381](#)] [[INSPIRE](#)].
- [4662] M.C. Digman and N.J. Cornish, *Parameter estimation for stellar-origin black hole mergers in LISA*, *Phys. Rev. D* **108** (2023) 023022 [[arXiv:2212.04600](#)] [[INSPIRE](#)].
- [4663] A.J.K. Chua, C.R. Galley and M. Vallisneri, *Reduced-order modeling with artificial neurons for gravitational-wave inference*, *Phys. Rev. Lett.* **122** (2019) 211101 [[arXiv:1811.05491](#)] [[INSPIRE](#)].
- [4664] Y. Setyawati, M. Pürrer and F. Ohme, *Regression methods in waveform modeling: a comparative study*, *Class. Quant. Grav.* **37** (2020) 075012 [[arXiv:1909.10986](#)] [[INSPIRE](#)].
- [4665] J. Lee et al., *Deep learning model on gravitational waveforms in merging and ringdown phases of binary black hole coalescences*, *Phys. Rev. D* **103** (2021) 123023 [[arXiv:2101.05685](#)] [[INSPIRE](#)].
- [4666] C.-H. Liao and F.-L. Lin, *Deep generative models of gravitational waveforms via conditional autoencoder*, *Phys. Rev. D* **103** (2021) 124051 [[arXiv:2101.06685](#)] [[INSPIRE](#)].
- [4667] E.A. Huerta et al., *Eccentric, nonspinning, inspiral, Gaussian-process merger approximant for the detection and characterization of eccentric binary black hole mergers*, *Phys. Rev. D* **97** (2018) 024031 [[arXiv:1711.06276](#)] [[INSPIRE](#)].
- [4668] P. Nousi et al., *Autoencoder-driven Spiral Representation Learning for Gravitational Wave Surrogate Modelling*, *Neurocomput.* **491** (2022) 67 [[arXiv:2107.04312](#)] [[INSPIRE](#)].
- [4669] S.-C. Fragkouli et al., *Deep residual error and bag-of-tricks learning for gravitational wave surrogate modeling*, *Appl. Soft Comput.* **147** (2023) 110746 [[arXiv:2203.08434](#)] [[INSPIRE](#)].
- [4670] A. Khan, E.A. Huerta and H. Zheng, *Interpretable AI forecasting for numerical relativity waveforms of quasicircular, spinning, nonprecessing binary black hole mergers*, *Phys. Rev. D* **105** (2022) 024024 [[arXiv:2110.06968](#)] [[INSPIRE](#)].
- [4671] D. Barsotti, F. Cerino, M. Tiglio and A. Villanueva, *Gravitational wave surrogates through automated machine learning*, *Class. Quant. Grav.* **39** (2022) 085011 [[arXiv:2110.08901](#)] [[INSPIRE](#)].
- [4672] F.F. Freitas et al., *Generating gravitational waveform libraries of exotic compact binaries with deep learning*, *Phys. Rev. D* **109** (2024) 124059 [[arXiv:2203.01267](#)] [[INSPIRE](#)].
- [4673] B. Keith, A. Khadse and S.E. Field, *Learning orbital dynamics of binary black hole systems from gravitational wave measurements*, *Phys. Rev. Res.* **3** (2021) 043101 [[arXiv:2102.12695](#)] [[INSPIRE](#)].
- [4674] N. Christensen and R. Meyer, *Parameter estimation with gravitational waves*, *Rev. Mod. Phys.* **94** (2022) 025001 [[arXiv:2204.04449](#)] [[INSPIRE](#)].
- [4675] B.F. Schutz, *Networks of gravitational wave detectors and three figures of merit*, *Class. Quant. Grav.* **28** (2011) 125023 [[arXiv:1102.5421](#)] [[INSPIRE](#)].
- [4676] P. Jaranowski, A. Krolak and B.F. Schutz, *Data analysis of gravitational — wave signals from spinning neutron stars. 1. The signal and its detection*, *Phys. Rev. D* **58** (1998) 063001 [[gr-qc/9804014](#)] [[INSPIRE](#)].
- [4677] C. Cutler, *Angular resolution of the LISA gravitational wave detector*, *Phys. Rev. D* **57** (1998) 7089 [[gr-qc/9703068](#)] [[INSPIRE](#)].
- [4678] N.J. Cornish and S.L. Larson, *LISA data analysis: Source identification and subtraction*, *Phys. Rev. D* **67** (2003) 103001 [[astro-ph/0301548](#)] [[INSPIRE](#)].

- [4679] E. Racine, *Analysis of spin precession in binary black hole systems including quadrupole-monopole interaction*, *Phys. Rev. D* **78** (2008) 044021 [[arXiv:0803.1820](#)] [[INSPIRE](#)].
- [4680] N.V. Krishnendu, K.G. Arun and C.K. Mishra, *Testing the binary black hole nature of a compact binary coalescence*, *Phys. Rev. Lett.* **119** (2017) 091101 [[arXiv:1701.06318](#)] [[INSPIRE](#)].
- [4681] G. Ashton et al., *Nested sampling for physical scientists*, *Nature* **2** (2022) 39 [[arXiv:2205.15570](#)] [[INSPIRE](#)].
- [4682] R. Smith et al., *Bayesian Inference for Gravitational Waves from Binary Neutron Star Mergers in Third Generation Observatories*, *Phys. Rev. Lett.* **127** (2021) 081102 [[arXiv:2103.12274](#)] [[INSPIRE](#)].
- [4683] T. Wouters, P.T.H. Pang, T. Dietrich and C. Van Den Broeck, *Robust parameter estimation within minutes on gravitational wave signals from binary neutron star inspirals*, *Phys. Rev. D* **110** (2024) 083033 [[arXiv:2404.11397](#)] [[INSPIRE](#)].
- [4684] C.L. Rodriguez, B. Farr, W.M. Farr and I. Mandel, *Inadequacies of the Fisher Information Matrix in gravitational-wave parameter estimation*, *Phys. Rev. D* **88** (2013) 084013 [[arXiv:1308.1397](#)] [[INSPIRE](#)].
- [4685] T. Robson, N.J. Cornish and C. Liu, *The construction and use of LISA sensitivity curves*, *Class. Quant. Grav.* **36** (2019) 105011 [[arXiv:1803.01944](#)] [[INSPIRE](#)].
- [4686] S. Borhanian, *GWBENCH: a novel Fisher information package for gravitational-wave benchmarking*, *Class. Quant. Grav.* **38** (2021) 175014 [[arXiv:2010.15202](#)] [[INSPIRE](#)].
- [4687] M.L. Chan, C. Messenger, I.S. Heng and M. Hendry, *Binary Neutron Star Mergers and Third Generation Detectors: Localization and Early Warning*, *Phys. Rev. D* **97** (2018) 123014 [[arXiv:1803.09680](#)] [[INSPIRE](#)].
- [4688] Y. Li et al., *Exploring the sky localization and early warning capabilities of third generation gravitational wave detectors in three-detector network configurations*, *Phys. Rev. D* **105** (2022) 043010 [[arXiv:2109.07389](#)] [[INSPIRE](#)].
- [4689] A. Begnoni et al., *Detectability and Parameter Estimation for Einstein Telescope Configurations with GWJulia*, [arXiv:2506.21530](#) [[INSPIRE](#)].
- [4690] LIGO SCIENTIFIC, VIRGO and KAGRA collaborations, *LVK Algorithm Library — LALSuite*, Free software (GPL) (2018), [DOI:10.7935/GT1W-FZ16](#).
- [4691] K. Wette, *SWIGLAL: Python and Octave interfaces to the LALSuite gravitational-wave data analysis libraries*, *SoftwareX* **12** (2020) 100634 [[arXiv:2012.09552](#)] [[INSPIRE](#)].
- [4692] C.C. Margossian, *A review of automatic differentiation and its efficient implementation*, *WIRES Data Mining and Knowledge Discovery* **9** (2019).
- [4693] J. Bradbury et al., *JAX: composable transformations of Python+NumPy programs*, <http://github.com/google/jax>, (2018).
- [4694] J. Revels, M. Lubin and T. Papamarkou, *Forward-Mode Automatic Differentiation in Julia*, [arXiv:1607.07892](#).
- [4695] H.-Y. Chen, *Systematic Uncertainty of Standard Sirens from the Viewing Angle of Binary Neutron Star Inspirals*, *Phys. Rev. Lett.* **125** (2020) 201301 [[arXiv:2006.02779](#)] [[INSPIRE](#)].
- [4696] H.-Y. Chen, C. Talbot and E.A. Chase, *Mitigating the Counterpart Selection Effect for Standard Sirens*, *Phys. Rev. Lett.* **132** (2024) 191003 [[arXiv:2307.10402](#)] [[INSPIRE](#)].

- [4697] J.M.S. de Souza and R. Sturani, *GWDALI: A Fisher-matrix based software for gravitational wave parameter-estimation beyond Gaussian approximation*, *Astron. Comput.* **45** (2023) 100759 [[arXiv:2307.10154](#)] [[INSPIRE](#)].
- [4698] E. Sellentin, M. Quartin and L. Amendola, *Breaking the spell of Gaussianity: forecasting with higher order Fisher matrices*, *Mon. Not. Roy. Astron. Soc.* **441** (2014) 1831 [[arXiv:1401.6892](#)] [[INSPIRE](#)].
- [4699] Z. Wang, C. Liu, J. Zhao and L. Shao, *Extending the Fisher Information Matrix in Gravitational-wave Data Analysis*, *Astrophys. J.* **932** (2022) 102 [[arXiv:2203.02670](#)] [[INSPIRE](#)].
- [4700] Z.I. Botev, *The Normal Law Under Linear Restrictions: Simulation and Estimation via Minimax Tilting*, *J. Roy. Statist. Soc. B* **79** (2016) 125.
- [4701] R.J.E. Smith, G. Ashton, A. Vajpeyi and C. Talbot, *Massively parallel Bayesian inference for transient gravitational-wave astronomy*, *Mon. Not. Roy. Astron. Soc.* **498** (2020) 4492 [[arXiv:1909.11873](#)] [[INSPIRE](#)].
- [4702] T.A. Callister, *Observed Gravitational-Wave Populations*, [arXiv:2410.19145](#) [[INSPIRE](#)].
- [4703] J.R. Gair, A. Antonelli and R. Barbieri, *A Fisher matrix for gravitational-wave population inference*, *Mon. Not. Roy. Astron. Soc.* **519** (2022) 2736 [[arXiv:2205.07893](#)] [[INSPIRE](#)].
- [4704] V. De Renzi et al., *Forecasting the population properties of merging black holes*, *Phys. Rev. D* **111** (2025) 044048 [[arXiv:2410.17325](#)] [[INSPIRE](#)].
- [4705] C. Talbot et al., *GWPopulation: Hardware agnostic population inference for compact binaries and beyond*, *J. Open Source Softw.* **10** (2025) 7753 [[arXiv:2409.14143](#)] [[INSPIRE](#)].
- [4706] C. Talbot and J. Golomb, *Growing pains: understanding the impact of likelihood uncertainty on hierarchical Bayesian inference for gravitational-wave astronomy*, *Mon. Not. Roy. Astron. Soc.* **526** (2023) 3495 [[arXiv:2304.06138](#)] [[INSPIRE](#)].
- [4707] F. Iacovelli et al., *Combining underground and on-surface third-generation gravitational-wave interferometers*, *JCAP* **10** (2024) 085 [[arXiv:2408.14946](#)] [[INSPIRE](#)].
- [4708] M. Maggiore et al., *Comparison of global networks of third-generation gravitational-wave detectors*, [arXiv:2411.05754](#) [[INSPIRE](#)].
- [4709] P. Ajith, *Addressing the spin question in gravitational-wave searches: Waveform templates for inspiralling compact binaries with nonprecessing spins*, *Phys. Rev. D* **84** (2011) 084037 [[arXiv:1107.1267](#)] [[INSPIRE](#)].
- [4710] C.V. Vishveshwara, *Scattering of Gravitational Radiation by a Schwarzschild Black-hole*, *Nature* **227** (1970) 936 [[INSPIRE](#)].
- [4711] W.H. Press, *Long Wave Trains of Gravitational Waves from a Vibrating Black Hole*, *Astrophys. J. Lett.* **170** (1971) L105 [[INSPIRE](#)].
- [4712] E. Berti, V. Cardoso and A.O. Starinets, *Quasinormal modes of black holes and black branes*, *Class. Quant. Grav.* **26** (2009) 163001 [[arXiv:0905.2975](#)] [[INSPIRE](#)].
- [4713] W. Israel, *Event horizons in static vacuum space-times*, *Phys. Rev.* **164** (1967) 1776 [[INSPIRE](#)].
- [4714] B. Carter, *Axisymmetric Black Hole Has Only Two Degrees of Freedom*, *Phys. Rev. Lett.* **26** (1971) 331 [[INSPIRE](#)].
- [4715] S.W. Hawking, *Black holes in general relativity*, *Commun. Math. Phys.* **25** (1972) 152 [[INSPIRE](#)].

- [4716] D.C. Robinson, *Uniqueness of the Kerr black hole*, *Phys. Rev. Lett.* **34** (1975) 905 [INSPIRE].
- [4717] R.P. Kerr, *Gravitational field of a spinning mass as an example of algebraically special metrics*, *Phys. Rev. Lett.* **11** (1963) 237 [INSPIRE].
- [4718] S.A. Teukolsky, *The Kerr Metric*, *Class. Quant. Grav.* **32** (2015) 124006 [arXiv:1410.2130] [INSPIRE].
- [4719] S.A. Teukolsky, *Rotating black holes — separable wave equations for gravitational and electromagnetic perturbations*, *Phys. Rev. Lett.* **29** (1972) 1114 [INSPIRE].
- [4720] E. Barausse and T.P. Sotiriou, *Perturbed Kerr Black Holes can probe deviations from General Relativity*, *Phys. Rev. Lett.* **101** (2008) 099001 [arXiv:0803.3433] [INSPIRE].
- [4721] N. Franchini and S.H. Völkel, *Testing General Relativity with Black Hole Quasi-normal Modes*, in C. Bambi and A. Cárdenas-Avendaño eds., *Recent Progress on Gravity Tests. Springer Series in Astrophysics and Cosmology*, Springer (2024), DOI:10.1007/978-981-97-2871-8\_9 [arXiv:2305.01696] [INSPIRE].
- [4722] E. Berti, K. Yagi, H. Yang and N. Yunes, *Extreme Gravity Tests with Gravitational Waves from Compact Binary Coalescences: (II) Ringdown*, *Gen. Rel. Grav.* **50** (2018) 49 [arXiv:1801.03587] [INSPIRE].
- [4723] L. London, D. Shoemaker and J. Healy, *Modeling ringdown: Beyond the fundamental quasinormal modes*, *Phys. Rev. D* **90** (2014) 124032 [Erratum *ibid.* **94** (2016) 069902] [arXiv:1404.3197] [INSPIRE].
- [4724] L.T. London, *Modeling ringdown. II. Aligned-spin binary black holes, implications for data analysis and fundamental theory*, *Phys. Rev. D* **102** (2020) 084052 [arXiv:1801.08208] [INSPIRE].
- [4725] S. Borhanian, K.G. Arun, H.P. Pfeiffer and B.S. Sathyaprakash, *Comparison of post-Newtonian mode amplitudes with numerical relativity simulations of binary black holes*, *Class. Quant. Grav.* **37** (2020) 065006 [arXiv:1901.08516] [INSPIRE].
- [4726] M.H.-Y. Cheung, E. Berti, V. Baibhav and R. Cotesta, *Extracting linear and nonlinear quasinormal modes from black hole merger simulations*, *Phys. Rev. D* **109** (2024) 044069 [Erratum *ibid.* **110** (2024) 049902] [arXiv:2310.04489] [INSPIRE].
- [4727] E. Berti, V. Cardoso and C.M. Will, *On gravitational-wave spectroscopy of massive black holes with the space interferometer LISA*, *Phys. Rev. D* **73** (2006) 064030 [gr-qc/0512160] [INSPIRE].
- [4728] E. Berti, *Ringdown. Kerr qnm frequencies*, <https://pages.jh.edu/eberti2/ringdown/>.
- [4729] L. London and E. Fauchon-Jones, *On modeling for Kerr black holes: Basis learning, QNM frequencies, and spherical-spheroidal mixing coefficients*, *Class. Quant. Grav.* **36** (2019) 235015 [arXiv:1810.03550] [INSPIRE].
- [4730] L.C. Stein, *qnm: A Python package for calculating Kerr quasinormal modes, separation constants, and spherical-spheroidal mixing coefficients*, *J. Open Source Softw.* **4** (2019) 1683 [arXiv:1908.10377] [INSPIRE].
- [4731] V. Varma et al., *High-accuracy mass, spin, and recoil predictions of generic black-hole merger remnants*, *Phys. Rev. Lett.* **122** (2019) 011101 [arXiv:1809.09125] [INSPIRE].
- [4732] M. Boschini et al., *Extending black-hole remnant surrogate models to extreme mass ratios*, *Phys. Rev. D* **108** (2023) 084015 [arXiv:2307.03435] [INSPIRE].
- [4733] M. Isi and W.M. Farr, *Analyzing black-hole ringdowns*, arXiv:2107.05609 [INSPIRE].

- [4734] G. Carullo, W. Del Pozzo and J. Veitch, *Observational Black Hole Spectroscopy: A time-domain multimode analysis of GW150914*, *Phys. Rev. D* **99** (2019) 123029 [Erratum *ibid.* **100** (2019) 089903] [[arXiv:1902.07527](#)] [[INSPIRE](#)].
- [4735] C. Pacilio, S. Bhagwat, F. Nobili and D. Gerosa, *Flexible mapping of ringdown amplitudes for nonprecessing binary black holes*, *Phys. Rev. D* **110** (2024) 103037 [[arXiv:2408.05276](#)] [[INSPIRE](#)].
- [4736] N. Christensen, *Optimal detection strategies for measuring the stochastic gravitational radiation background with laser interferometric antennas*, *Phys. Rev. D* **55** (1997) 448 [[INSPIRE](#)].
- [4737] X.-J. Zhu et al., *Stochastic Gravitational Wave Background from Coalescing Binary Black Holes*, *Astrophys. J.* **739** (2011) 86 [[arXiv:1104.3565](#)] [[INSPIRE](#)].
- [4738] E. Belgacem, *Analytical results for the power-law sensitivity curve of stochastic gravitational-wave backgrounds*, [arXiv:2503.06356](#) [[INSPIRE](#)].
- [4739] C. Cutler and J. Harms, *BBO and the neutron-star-binary subtraction problem*, *Phys. Rev. D* **73** (2006) 042001 [[gr-qc/0511092](#)] [[INSPIRE](#)].
- [4740] J. Harms, C. Mahrtdt, M. Otto and M. Priess, *Subtraction-noise projection in gravitational-wave detector networks*, *Phys. Rev. D* **77** (2008) 123010 [[arXiv:0803.0226](#)] [[INSPIRE](#)].
- [4741] T. Regimbau et al., *Digging deeper: Observing primordial gravitational waves below the binary black hole produced stochastic background*, *Phys. Rev. Lett.* **118** (2017) 151105 [[arXiv:1611.08943](#)] [[INSPIRE](#)].
- [4742] S. Sachdev, T. Regimbau and B.S. Sathyaprakash, *Subtracting compact binary foreground sources to reveal primordial gravitational-wave backgrounds*, *Phys. Rev. D* **102** (2020) 024051 [[arXiv:2002.05365](#)] [[INSPIRE](#)].
- [4743] A. Sharma and J. Harms, *Searching for cosmological gravitational-wave backgrounds with third-generation detectors in the presence of an astrophysical foreground*, *Phys. Rev. D* **102** (2020) 063009 [[arXiv:2006.16116](#)] [[INSPIRE](#)].
- [4744] Z. Pan and H. Yang, *Improving the detection sensitivity to primordial stochastic gravitational waves with reduced astrophysical foregrounds*, *Phys. Rev. D* **107** (2023) 123036 [[arXiv:2301.04529](#)] [[INSPIRE](#)].
- [4745] B. Goncharov, A.H. Nitz and J. Harms, *Utilizing the null stream of the Einstein Telescope*, *Phys. Rev. D* **105** (2022) 122007 [[arXiv:2204.08533](#)] [[INSPIRE](#)].
- [4746] K. Janssens et al., *Formalism for power spectral density estimation for non-identical and correlated noise using the null channel in Einstein Telescope*, *Eur. Phys. J. Plus* **138** (2023) 352 [Erratum *ibid.* **138** (2023) 446] [[arXiv:2205.00416](#)] [[INSPIRE](#)].
- [4747] S. Wu and A.H. Nitz, *Mock data study for next-generation ground-based detectors: The performance loss of matched filtering due to correlated confusion noise*, *Phys. Rev. D* **107** (2023) 063022 [[arXiv:2209.03135](#)] [[INSPIRE](#)].
- [4748] I.C.F. Wong and T.G.F. Li, *Signal space in the triangular network of the Einstein Telescope*, *Phys. Rev. D* **105** (2022) 084002 [[arXiv:2108.05108](#)] [[INSPIRE](#)].
- [4749] B.F. Schutz and B.S. Sathyaprakash, *Self-calibration of Networks of Gravitational Wave Detectors*, [arXiv:2009.10212](#) [[INSPIRE](#)].

- [4750] P. Ajith, M. Hewitson and I.S. Heng, *Null-stream veto for two co-located detectors: Implementation issues*, *Class. Quant. Grav.* **23** (2006) S741 [[gr-qc/0604004](#)] [[INSPIRE](#)].
- [4751] S.A. Usman et al., *The PyCBC search for gravitational waves from compact binary coalescence*, *Class. Quant. Grav.* **33** (2016) 215004 [[arXiv:1508.02357](#)] [[INSPIRE](#)].
- [4752] H. Narola et al., *Null-stream-based third-generation-ready glitch mitigation for gravitational wave measurements*, *Phys. Rev. D* **112** (2025) 024079 [[arXiv:2411.15506](#)] [[INSPIRE](#)].
- [4753] T.B. Littenberg and N.J. Cornish, *Bayesian inference for spectral estimation of gravitational wave detector noise*, *Phys. Rev. D* **91** (2015) 084034 [[arXiv:1410.3852](#)] [[INSPIRE](#)].
- [4754] R. Magee et al., *First demonstration of early warning gravitational wave alerts*, *Astrophys. J. Lett.* **910** (2021) L21 [[arXiv:2102.04555](#)] [[INSPIRE](#)].
- [4755] A.H. Nitz, M. Schäfer and T. Dal Canton, *Gravitational-wave Merger Forecasting: Scenarios for the Early Detection and Localization of Compact-binary Mergers with Ground-based Observatories*, *Astrophys. J. Lett.* **902** (2020) L29 [[arXiv:2009.04439](#)] [[INSPIRE](#)].
- [4756] P. Whittle, *Curve and periodogram smoothing*, *J. Roy. Stat. Soc. Ser. B* **19** (1957) 38, <https://www.jstor.org/stable/2983994>.
- [4757] B. Zackay et al., *Detecting gravitational waves in data with non-stationary and non-Gaussian noise*, *Phys. Rev. D* **104** (2021) 063034 [[arXiv:1908.05644](#)] [[INSPIRE](#)].
- [4758] O. Edy, A. Lundgren and L.K. Nuttall, *Issues of mismodeling gravitational-wave data for parameter estimation*, *Phys. Rev. D* **103** (2021) 124061 [[arXiv:2101.07743](#)] [[INSPIRE](#)].
- [4759] S. Kumar, A.H. Nitz and X.J. Forteza, *Parameter Estimation with Nonstationary Noise in Gravitational-wave Data*, *Astrophys. J.* **982** (2025) 67 [[arXiv:2202.12762](#)] [[INSPIRE](#)].
- [4760] L. Blackburn et al., *The LSC Glitch Group: Monitoring Noise Transients during the fifth LIGO Science Run*, *Class. Quant. Grav.* **25** (2008) 184004 [[arXiv:0804.0800](#)] [[INSPIRE](#)].
- [4761] LIGO SCIENTIFIC and VIRGO collaborations, *Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914*, *Class. Quant. Grav.* **33** (2016) 134001 [[arXiv:1602.03844](#)] [[INSPIRE](#)].
- [4762] LIGO collaboration, *LIGO detector characterization in the second and third observing runs*, *Class. Quant. Grav.* **38** (2021) 135014 [[arXiv:2101.11673](#)] [[INSPIRE](#)].
- [4763] L.K. Nuttall, *Characterizing transient noise in the LIGO detectors*, *Phil. Trans. Roy. Soc. Lond. A* **376** (2018) 20170286 [[arXiv:1804.07592](#)] [[INSPIRE](#)].
- [4764] D. Davis and M. Walker, *Detector Characterization and Mitigation of Noise in Ground-Based Gravitational-Wave Interferometers*, *Galaxies* **10** (2022) 12 [[INSPIRE](#)].
- [4765] N.J. Cornish and T.B. Littenberg, *BayesWave: Bayesian Inference for Gravitational Wave Bursts and Instrument Glitches*, *Class. Quant. Grav.* **32** (2015) 135012 [[arXiv:1410.3835](#)] [[INSPIRE](#)].
- [4766] C. Pankow et al., *Mitigation of the instrumental noise transient in gravitational-wave data surrounding GW170817*, *Phys. Rev. D* **98** (2018) 084016 [[arXiv:1808.03619](#)] [[INSPIRE](#)].
- [4767] T.-Y. Sun et al., *Efficient parameter inference for gravitational wave signals in the presence of transient noises using temporal and time-spectral fusion normalizing flow*, *Chin. Phys. C* **48** (2024) 045108 [[arXiv:2312.08122](#)] [[INSPIRE](#)].
- [4768] C.-Y. Xiong, T.-Y. Sun, J.-F. Zhang and X. Zhang, *Robust inference of gravitational wave source parameters in the presence of noise transients using normalizing flows*, *Phys. Rev. D* **111** (2025) 024019 [[arXiv:2405.09475](#)] [[INSPIRE](#)].

- [4769] A.D. Johnson, K. Chatziioannou and W.M. Farr, *Source confusion from neutron star binaries in ground-based gravitational wave detectors is minimal*, *Phys. Rev. D* **109** (2024) 084015 [[arXiv:2402.06836](#)] [[INSPIRE](#)].
- [4770] Z. Wang et al., *Anatomy of parameter-estimation biases in overlapping gravitational-wave signals*, *Class. Quant. Grav.* **41** (2024) 055011 [[arXiv:2304.06734](#)] [[INSPIRE](#)].
- [4771] J. Janquart et al., *Analyses of overlapping gravitational wave signals using hierarchical subtraction and joint parameter estimation*, *Mon. Not. Roy. Astron. Soc.* **523** (2023) 1699 [[arXiv:2211.01304](#)] [[INSPIRE](#)].
- [4772] J. Langendorff, A. Kolmus, J. Janquart and C. Van Den Broeck, *Normalizing Flows as an Avenue to Studying Overlapping Gravitational Wave Signals*, *Phys. Rev. Lett.* **130** (2023) 171402 [[arXiv:2211.15097](#)] [[INSPIRE](#)].
- [4773] Q. Hu and J. Veitch, *Accumulating Errors in Tests of General Relativity with Gravitational Waves: Overlapping Signals and Inaccurate Waveforms*, *Astrophys. J.* **945** (2023) 103 [[arXiv:2210.04769](#)] [[INSPIRE](#)].
- [4774] Y. Dang, Z. Wang, D. Liang and L. Shao, *Impact of Overlapping Signals on Parameterized Post-Newtonian Coefficients in Tests of Gravity*, *Astrophys. J.* **964** (2024) 194 [[arXiv:2311.16184](#)] [[INSPIRE](#)].
- [4775] H. Song, D. Liang, Z. Wang and L. Shao, *Impact of spin in compact binary foreground subtraction for estimating the residual stochastic gravitational-wave background in ground-based detectors*, *Phys. Rev. D* **109** (2024) 123014 [[arXiv:2401.00984](#)] [[INSPIRE](#)].
- [4776] H. Zhong, R. Ormiston and V. Mandic, *Detecting cosmological gravitational wave background after removal of compact binary coalescences in future gravitational wave detectors*, *Phys. Rev. D* **107** (2023) 064048 [Erratum *ibid.* **108** (2023) 089902] [[arXiv:2209.11877](#)] [[INSPIRE](#)].
- [4777] O. Theobald, *Machine Learning for Absolute Beginners: A Plain English Introduction*, Scatterplot Press, London (2017).
- [4778] <I. Goodfellow, Y. Bengio and A. Courville, *Deep Learning*, MIT Press, Cambridge, MA, U.S.A. (2016), <https://www.deeplearningbook.org/>.
- [4779] E. Cuoco et al., *Applications of machine learning in gravitational-wave research with current interferometric detectors*, *Living Rev. Rel.* **28** (2025) 2 [[arXiv:2412.15046](#)] [[INSPIRE](#)].
- [4780] E. Cuoco, A. Iess, F. Morawski and M. Razzano, *Machine Learning for the Characterization of Gravitational Wave Data*, in *Handbook of Gravitational Wave Astronomy*, C. Bambi, S. Katsanevas and K.D. Kokkotas eds., Springer Nature Singapore (2022), p. 1769–1791 [[DOI:10.1007/978-981-16-4306-4\\_46](#)].
- [4781] J. Powell et al., *Classification methods for noise transients in advanced gravitational-wave detectors*, *Class. Quant. Grav.* **32** (2015) 215012 [[arXiv:1505.01299](#)] [[INSPIRE](#)].
- [4782] J. Powell et al., *Classification methods for noise transients in advanced gravitational-wave detectors II: performance tests on Advanced LIGO data*, *Class. Quant. Grav.* **34** (2017) 034002 [[arXiv:1609.06262](#)] [[INSPIRE](#)].
- [4783] M. Razzano and E. Cuoco, *Image-based deep learning for classification of noise transients in gravitational wave detectors*, *Class. Quant. Grav.* **35** (2018) 095016 [[arXiv:1803.09933](#)] [[INSPIRE](#)].
- [4784] M. Zevin et al., *Gravity Spy: Integrating Advanced LIGO Detector Characterization, Machine Learning, and Citizen Science*, *Class. Quant. Grav.* **34** (2017) 064003 [[arXiv:1611.04596](#)] [[INSPIRE](#)].

- [4785] M. Razzano et al., *GWitchHunters: Machine learning and citizen science to improve the performance of gravitational wave detector*, *Nucl. Instrum. Meth. A* **1048** (2023) 167959 [[arXiv:2301.05112](#)] [[INSPIRE](#)].
- [4786] H. Shen, D. George, E.A. Huerta and Z. Zhao, *Denoising Gravitational Waves with Enhanced Deep Recurrent Denoising Auto-Encoders*, [arXiv:1903.03105](#) [[DOI:10.1109/ICASSP.2019.8683061](#)] [[INSPIRE](#)].
- [4787] P. Laguarda et al., *Detection of anomalies amongst LIGO’s glitch populations with autoencoders*, *Class. Quant. Grav.* **41** (2024) 055004 [[arXiv:2310.03453](#)] [[INSPIRE](#)].
- [4788] M. Lopez et al., *Simulating transient noise bursts in LIGO with generative adversarial networks*, *Phys. Rev. D* **106** (2022) 023027 [[arXiv:2203.06494](#)] [[INSPIRE](#)].
- [4789] J. Powell et al., *Generating transient noise artefacts in gravitational-wave detector data with generative adversarial networks*, *Class. Quant. Grav.* **40** (2023) 035006 [[arXiv:2207.00207](#)] [[INSPIRE](#)].
- [4790] B. Allen et al., *FINDCHIRP: An algorithm for detection of gravitational waves from inspiraling compact binaries*, *Phys. Rev. D* **85** (2012) 122006 [[gr-qc/0509116](#)] [[INSPIRE](#)].
- [4791] F. Aubin et al., *The MBTA pipeline for detecting compact binary coalescences in the third LIGO–Virgo observing run*, *Class. Quant. Grav.* **38** (2021) 095004 [[arXiv:2012.11512](#)] [[INSPIRE](#)].
- [4792] B. Ewing et al., *Performance of the low-latency GstLAL inspiral search towards LIGO, Virgo, and KAGRA’s fourth observing run*, *Phys. Rev. D* **109** (2024) 042008 [[arXiv:2305.05625](#)] [[INSPIRE](#)].
- [4793] Q. Chu et al., *SPIIR online coherent pipeline to search for gravitational waves from compact binary coalescences*, *Phys. Rev. D* **105** (2022) 024023 [[arXiv:2011.06787](#)] [[INSPIRE](#)].
- [4794] D. Wadekar et al., *New search pipeline for gravitational waves with higher-order modes using mode-by-mode filtering*, *Phys. Rev. D* **110** (2024) 044063 [[arXiv:2405.17400](#)] [[INSPIRE](#)].
- [4795] T. Cokelaer, *Gravitational waves from inspiraling compact binaries: Hexagonal template placement and its efficiency in detecting physical signals*, *Phys. Rev. D* **76** (2007) 102004 [[arXiv:0706.4437](#)] [[INSPIRE](#)].
- [4796] I.W. Harry, B. Allen and B.S. Sathyaprakash, *A stochastic template placement algorithm for gravitational wave data analysis*, *Phys. Rev. D* **80** (2009) 104014 [[arXiv:0908.2090](#)] [[INSPIRE](#)].
- [4797] S. Roy, A.S. Sengupta and P. Ajith, *Effectual template banks for upcoming compact binary searches in Advanced-LIGO and Virgo data*, *Phys. Rev. D* **99** (2019) 024048 [[arXiv:1711.08743](#)] [[INSPIRE](#)].
- [4798] M. Pillas, *Exploring the physics of neutron star mergers with gravitational waves and gamma-ray bursts*, Ph.D. thesis, U. Paris-Saclay, France (2023) [[INSPIRE](#)].
- [4799] P. Relton et al., *Addressing the challenges of detecting time-overlapping compact binary coalescences*, *Phys. Rev. D* **106** (2022) 104045 [[arXiv:2208.00261](#)] [[INSPIRE](#)].
- [4800] D. George and E.A. Huerta, *Deep Learning for Real-time Gravitational Wave Detection and Parameter Estimation: Results with Advanced LIGO Data*, *Phys. Lett. B* **778** (2018) 64 [[arXiv:1711.03121](#)] [[INSPIRE](#)].
- [4801] H. Gabbard, M. Williams, F. Hayes and C. Messenger, *Matching matched filtering with deep networks for gravitational-wave astronomy*, *Phys. Rev. Lett.* **120** (2018) 141103 [[arXiv:1712.06041](#)] [[INSPIRE](#)].

- [4802] T.D. Gebhard, N. Kilbertus, I. Harry and B. Schölkopf, *Convolutional neural networks: a magic bullet for gravitational-wave detection?*, *Phys. Rev. D* **100** (2019) 063015 [[arXiv:1904.08693](#)] [[INSPIRE](#)].
- [4803] H. Xia, L. Shao, J. Zhao and Z. Cao, *Improved deep learning techniques in gravitational-wave data analysis*, *Phys. Rev. D* **103** (2021) 024040 [[arXiv:2011.04418](#)] [[INSPIRE](#)].
- [4804] M.B. Schäfer et al., *First machine learning gravitational-wave search mock data challenge*, *Phys. Rev. D* **107** (2023) 023021 [[arXiv:2209.11146](#)] [[INSPIRE](#)].
- [4805] M. Dax et al., *Real-time inference for binary neutron star mergers using machine learning*, *Nature* **639** (2025) 49 [[arXiv:2407.09602](#)] [[INSPIRE](#)].
- [4806] X. Fan et al., *Applying deep neural networks to the detection and space parameter estimation of compact binary coalescence with a network of gravitational wave detectors*, *Sci. China Phys. Mech. Astron.* **62** (2019) 969512 [[arXiv:1811.01380](#)] [[INSPIRE](#)].
- [4807] B.-J. Lin, X.-R. Li and W.-L. Yu, *Binary neutron stars gravitational wave detection based on wavelet packet analysis and convolutional neural networks*, *Front. Phys. (Beijing)* **15** (2020) 24602 [[arXiv:1910.10525](#)] [[INSPIRE](#)].
- [4808] P.G. Krastev, *Real-Time Detection of Gravitational Waves from Binary Neutron Stars using Artificial Neural Networks*, *Phys. Lett. B* **803** (2020) 135330 [[arXiv:1908.03151](#)] [[INSPIRE](#)].
- [4809] P.G. Krastev, K. Gill, V.A. Villar and E. Berger, *Detection and Parameter Estimation of Gravitational Waves from Binary Neutron-Star Mergers in Real LIGO Data using Deep Learning*, *Phys. Lett. B* **815** (2021) 136161 [[arXiv:2012.13101](#)] [[INSPIRE](#)].
- [4810] LIGO SCIENTIFIC and VIRGO collaborations, *Search for Lensing Signatures in the Gravitational-Wave Observations from the First Half of LIGO–Virgo’s Third Observing Run*, *Astrophys. J.* **923** (2021) 14 [[arXiv:2105.06384](#)] [[INSPIRE](#)].
- [4811] T. Chen and C. Guestrin, *XGBoost: A Scalable Tree Boosting System*, [arXiv:1603.02754](#) [[DOI:10.1145/2939672.2939785](#)] [[INSPIRE](#)].
- [4812] T. Mishra et al., *Optimization of model independent gravitational wave search for binary black hole mergers using machine learning*, *Phys. Rev. D* **104** (2021) 023014 [[arXiv:2105.04739](#)] [[INSPIRE](#)].
- [4813] T. Mishra et al., *Search for binary black hole mergers in the third observing run of Advanced LIGO–Virgo using coherent WaveBurst enhanced with machine learning*, *Phys. Rev. D* **105** (2022) 083018 [[arXiv:2201.01495](#)] [[INSPIRE](#)].
- [4814] A.K. Lenon, D.A. Brown and A.H. Nitz, *Eccentric binary neutron star search prospects for Cosmic Explorer*, *Phys. Rev. D* **104** (2021) 063011 [[arXiv:2103.14088](#)] [[INSPIRE](#)].
- [4815] A.I. Renzini et al., *pygwb: a Python-based library for gravitational-wave background searches*, *J. Open Source Softw.* **9** (2024) 5454 [[INSPIRE](#)].
- [4816] A. Ain, P. Dalvi and S. Mitra, *Fast Gravitational Wave Radiometry using Data Folding*, *Phys. Rev. D* **92** (2015) 022003 [[arXiv:1504.01714](#)] [[INSPIRE](#)].
- [4817] A. Ain, J. Suresh and S. Mitra, *Very fast stochastic gravitational wave background map making using folded data*, *Phys. Rev. D* **98** (2018) 024001 [[arXiv:1803.08285](#)] [[INSPIRE](#)].
- [4818] V. Dergachev and M.A. Papa, *Early release of the expanded atlas of the sky in continuous gravitational waves*, *Phys. Rev. D* **109** (2024) 022007 [[arXiv:2401.13173](#)] [[INSPIRE](#)].

- [4819] L. D’Onofrio et al., *Search for gravitational wave signals from known pulsars in LIGO-Virgo O3 data using the 5n-vector ensemble method*, *Phys. Rev. D* **108** (2023) 122002 [[arXiv:2311.08229](#)] [[INSPIRE](#)].
- [4820] B. Steltner et al., *Deep Einstein@Home All-sky Search for Continuous Gravitational Waves in LIGO O3 Public Data*, *Astrophys. J.* **952** (2023) 55 [[arXiv:2303.04109](#)] [[INSPIRE](#)].
- [4821] V. Dergachev and M.A. Papa, *Frequency-Resolved Atlas of the Sky in Continuous Gravitational Waves*, *Phys. Rev. X* **13** (2023) 021020 [[arXiv:2202.10598](#)] [[INSPIRE](#)].
- [4822] LIGO SCIENTIFIC and VIRGO collaborations, *Search of the early O3 LIGO data for continuous gravitational waves from the Cassiopeia A and Vela Jr. supernova remnants*, *Phys. Rev. D* **105** (2022) 082005 [[arXiv:2111.15116](#)] [[INSPIRE](#)].
- [4823] LIGO SCIENTIFIC et al. collaborations, *Search for continuous gravitational waves from 20 accreting millisecond x-ray pulsars in O3 LIGO data*, *Phys. Rev. D* **105** (2022) 022002 [[arXiv:2109.09255](#)] [[INSPIRE](#)].
- [4824] S. Frasca, P. Astone and C. Palomba, *Evaluation of sensitivity and computing power for the Virgo hierarchical search for periodic sources*, *Class. Quant. Grav.* **22** (2005) S1013 [[INSPIRE](#)].
- [4825] K. Wette, S. Walsh, R. Prix and M.A. Papa, *Implementing a semicoherent search for continuous gravitational waves using optimally-constructed template banks*, *Phys. Rev. D* **97** (2018) 123016 [[arXiv:1804.03392](#)] [[INSPIRE](#)].
- [4826] A. Mukherjee, R. Prix and K. Wette, *Implementation of a new wave-based search pipeline for continuous gravitational waves from known binary systems*, *Phys. Rev. D* **107** (2023) 062005 [[arXiv:2207.09326](#)] [[INSPIRE](#)].
- [4827] I.L. Rosa et al., *Continuous Gravitational-Wave Data Analysis with General Purpose Computing on Graphic Processing Units*, *Universe* **7** (2021) 218 [[INSPIRE](#)].
- [4828] S. D’Antonio et al., *Semicoherent method to search for continuous gravitational waves*, *Phys. Rev. D* **108** (2023) 122001 [[arXiv:2311.06021](#)] [[INSPIRE](#)].
- [4829] L. Pierini, *Boosting the sensitivity of continuous gravitational waves all-sky searches using advanced filtering techniques*, Ph.D. thesis, Università degli Studi di Roma “La Sapienza”, Rome, Italy (2023) [[INSPIRE](#)].
- [4830] J.R. Gair et al., *Prospects for observing extreme-mass-ratio inspirals with LISA*, *J. Phys. Conf. Ser.* **840** (2017) 012021 [[arXiv:1704.00009](#)] [[INSPIRE](#)].
- [4831] R. Brito et al., *Stochastic and resolvable gravitational waves from ultralight bosons*, *Phys. Rev. Lett.* **119** (2017) 131101 [[arXiv:1706.05097](#)] [[INSPIRE](#)].
- [4832] L. Pierini et al., *Impact of signal clusters in wide-band searches for continuous gravitational waves*, *Phys. Rev. D* **106** (2022) 042009 [[arXiv:2209.09071](#)] [[INSPIRE](#)].
- [4833] M. Drago et al., *Coherent WaveBurst, a pipeline for unmodeled gravitational-wave data analysis*, [arXiv:2006.12604](#) [[DOI:10.1016/j.softx.2021.100678](#)] [[INSPIRE](#)].
- [4834] S. Bini et al., *An autoencoder neural network integrated into gravitational-wave burst searches to improve the rejection of noise transients*, *Class. Quant. Grav.* **40** (2023) 135008 [[arXiv:2303.05986](#)] [[INSPIRE](#)].
- [4835] M.J. Szczepańczyk et al., *Search for gravitational-wave bursts in the third Advanced LIGO-Virgo run with coherent WaveBurst enhanced by machine learning*, *Phys. Rev. D* **107** (2023) 062002 [[arXiv:2210.01754](#)] [[INSPIRE](#)].

- [4836] S. Vinciguerra et al., *Enhancing the significance of gravitational wave bursts through signal classification*, *Class. Quant. Grav.* **34** (2017) 094003 [[arXiv:1702.03208](#)] [[INSPIRE](#)].
- [4837] LIGO SCIENTIFIC et al. collaborations, *Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO–Virgo Run O3b*, *Astrophys. J.* **928** (2022) 186 [[arXiv:2111.03608](#)] [[INSPIRE](#)].
- [4838] LIGO SCIENTIFIC et al. collaborations, *Search for Gravitational Waves Associated with Fast Radio Bursts Detected by CHIME/FRB during the LIGO–Virgo Observing Run O3a*, *Astrophys. J.* **955** (2023) 155 [[arXiv:2203.12038](#)] [[INSPIRE](#)].
- [4839] KAGRA et al. collaborations, *All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run*, *Phys. Rev. D* **104** (2021) 102001 [[arXiv:2107.13796](#)] [[INSPIRE](#)].
- [4840] V. Boudart and M. Fays, *ALBUS: a machine learning algorithm for gravitational wave burst searches*, in the proceedings of the *2022 IEEE International Conference on Big Data (Big Data)* (2022) pp. 6599–6601 [[DOI:10.1109/bigdata55660.2022.10020896](#)].
- [4841] LIGO SCIENTIFIC and VIRGO collaborations, *All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run*, *Phys. Rev. D* **99** (2019) 104033 [[arXiv:1903.12015](#)] [[INSPIRE](#)].
- [4842] J. Veitch et al., *Parameter estimation for compact binaries with ground-based gravitational-wave observations using the LALInference software library*, *Phys. Rev. D* **91** (2015) 042003 [[arXiv:1409.7215](#)] [[INSPIRE](#)].
- [4843] L. Dai, T. Venumadhav and B. Zackay, *Parameter Estimation for GW170817 using Relative Binning*, [arXiv:1806.08793](#) [[INSPIRE](#)].
- [4844] H. Narola et al., *Gravitational-wave parameter estimation with relative binning: Inclusion of higher-order modes and precession, and applications to lensing and third-generation detectors*, *Phys. Rev. D* **110** (2024) 084085 [[arXiv:2308.12140](#)] [[INSPIRE](#)].
- [4845] U. Bhardwaj et al., *Sequential simulation-based inference for gravitational wave signals*, *Phys. Rev. D* **108** (2023) 042004 [[arXiv:2304.02035](#)] [[INSPIRE](#)].
- [4846] J. Alvey, U. Bhardwaj, S. Nissanke and C. Weniger, *What to do when things get crowded? Scalable joint analysis of overlapping gravitational wave signals*, [arXiv:2308.06318](#) [[INSPIRE](#)].
- [4847] J. McGinn et al., *Rapid neutron star equation of state inference with Normalising Flows*, [arXiv:2403.17462](#) [[INSPIRE](#)].
- [4848] Y. Xie, D. Chatterjee, G. Narayan and N. Yunes, *Neural post-Einsteinian framework for efficient theory-agnostic tests of general relativity with gravitational waves*, *Phys. Rev. D* **110** (2024) 024036 [[arXiv:2403.18936](#)] [[INSPIRE](#)].
- [4849] H. Gabbard et al., *Bayesian parameter estimation using conditional variational autoencoders for gravitational-wave astronomy*, *Nature Phys.* **18** (2022) 112 [[arXiv:1909.06296](#)] [[INSPIRE](#)].
- [4850] A. Kolmus et al., *Tuning neural posterior estimation for gravitational wave inference*, [arXiv:2403.02443](#) [[INSPIRE](#)].
- [4851] J. Skilling, *Nested sampling for general Bayesian computation*, *Bayesian Anal.* **1** (2006) 833 [[INSPIRE](#)].
- [4852] Q. Hu et al., *Decoding Long-duration Gravitational Waves from Binary Neutron Stars with Machine Learning: Parameter Estimation and Equations of State*, *Astrophys. J. Lett.* **987** (2025) L17 [[arXiv:2412.03454](#)] [[INSPIRE](#)].

- [4853] Q. Hu and J. Veitch, *Costs of Bayesian parameter estimation in third-generation gravitational wave detectors: An assessment of current acceleration methods*, *Phys. Rev. D* **112** (2025) 084039 [[arXiv:2412.02651](#)] [[INSPIRE](#)].
- [4854] G. Papamakarios et al., *Normalizing Flows for Probabilistic Modeling and Inference*, *J. Mach. Learn. Res.* **22** (2021) 2617 [[arXiv:1912.02762](#)] [[INSPIRE](#)].
- [4855] S.R. Green, C. Simpson and J. Gair, *Gravitational-wave parameter estimation with autoregressive neural network flows*, *Phys. Rev. D* **102** (2020) 104057 [[arXiv:2002.07656](#)] [[INSPIRE](#)].
- [4856] A. Delaunoy et al., *Lightning-Fast Gravitational Wave Parameter Inference through Neural Amortization*, [arXiv:2010.12931](#) [[INSPIRE](#)].
- [4857] B.K. Miller et al., *Truncated Marginal Neural Ratio Estimation*, in the proceedings of the *35th Conference on Neural Information Processing Systems*, Online Conference, Canada, December 06–14 (2021) [[DOI:10.5281/zenodo.5043706](#)] [[arXiv:2107.01214](#)] [[INSPIRE](#)].
- [4858] M.J. Williams, J. Veitch and C. Messenger, *Nested sampling with normalizing flows for gravitational-wave inference*, *Phys. Rev. D* **103** (2021) 103006 [[arXiv:2102.11056](#)] [[INSPIRE](#)].
- [4859] K.W. Wong, M. Gabri e and D. Foreman-Mackey, *flowMC: Normalizing flow enhanced sampling package for probabilistic inference in JAX*, *J. Open Source Softw.* **8** (2023) 5021 [[arXiv:2211.06397](#)] [[INSPIRE](#)].
- [4860] M.J. Williams, J. Veitch and C. Messenger, *Importance nested sampling with normalising flows*, *Mach. Learn. Sci. Tech.* **4** (2023) 035011 [[arXiv:2302.08526](#)] [[INSPIRE](#)].
- [4861] K.W.K. Wong, M. Isi and T.D.P. Edwards, *Fast Gravitational-wave Parameter Estimation without Compromises*, *Astrophys. J.* **958** (2023) 129 [[arXiv:2302.05333](#)] [[INSPIRE](#)].
- [4862] J. Wildberger et al., *Adapting to noise distribution shifts in flow-based gravitational-wave inference*, *Phys. Rev. D* **107** (2023) 084046 [[arXiv:2211.08801](#)] [[INSPIRE](#)].
- [4863] W. van Straalen, A. Kolmus, J. Janquart and C. Van Den Broeck, *Pre-Merger Detection and Characterization of Inspiral Binary Neutron Stars Derived from Neural Posterior Estimation*, [arXiv:2407.10263](#) [[INSPIRE](#)].
- [4864] N. Anau Montel, J. Alvey and C. Weniger, *Scalable inference with autoregressive neural ratio estimation*, *Mon. Not. Roy. Astron. Soc.* **530** (2024) 4107 [[arXiv:2308.08597](#)] [[INSPIRE](#)].
- [4865] E. Cameron and A. Pettitt, *Recursive Pathways to Marginal Likelihood Estimation with Prior-Sensitivity Analysis*, [arXiv:1301.6450](#) [[INSPIRE](#)].
- [4866] F. Feroz, M.P. Hobson, E. Cameron and A.N. Pettitt, *Importance Nested Sampling and the MultiNest Algorithm*, *Open J. Astrophys.* **2** (2019) 10 [[arXiv:1306.2144](#)] [[INSPIRE](#)].
- [4867] J.S. Speagle, *dynesty: a dynamic nested sampling package for estimating Bayesian posteriors and evidences*, *Mon. Not. Roy. Astron. Soc.* **493** (2020) 3132 [[arXiv:1904.02180](#)] [[INSPIRE](#)].
- [4868] N. Loutrel, *Analytic Waveforms for Eccentric Gravitational Wave Bursts*, *Class. Quant. Grav.* **37** (2020) 075008 [[arXiv:1909.02143](#)] [[INSPIRE](#)].
- [4869] J. Samsing et al., *Single-single gravitational-wave captures in globular clusters: Eccentric deci-Hertz sources observable by DECIGO and Tian-Qin*, *Phys. Rev. D* **101** (2020) 123010 [[arXiv:1907.11231](#)] [[INSPIRE](#)].
- [4870] F. De Santi et al., *Deep learning to detect gravitational waves from binary close encounters: Fast parameter estimation using normalizing flows*, *Phys. Rev. D* **109** (2024) 102004 [[arXiv:2404.12028](#)] [[INSPIRE](#)].

- [4871] U. Grenander and M.I. Miller, *Representations of Knowledge in Complex Systems*, *J. R. Stat. Soc. B* **56** (1994) 549, <http://www.jstor.org/stable/2346184>.
- [4872] M. Gabri e, G.M. Rotskoff and E. Vanden-Eijnden, *Adaptive Monte Carlo augmented with normalizing flows*, *Proc. Nat. Acad. Sci.* **119** (2022) e2109420119 [[arXiv:2105.12603](https://arxiv.org/abs/2105.12603)] [[INSPIRE](#)].
- [4873] T.D.P. Edwards et al., *Differentiable and hardware-accelerated waveforms for gravitational wave data analysis*, *Phys. Rev. D* **110** (2024) 064028 [[arXiv:2302.05329](https://arxiv.org/abs/2302.05329)] [[INSPIRE](#)].
- [4874] J. Perret, M. Ar ene and E.K. Porter, *DeepHMC: a deep-neural-network accelerated Hamiltonian Monte Carlo algorithm for binary neutron star parameter estimation*, [arXiv:2505.02589](https://arxiv.org/abs/2505.02589) [[INSPIRE](#)].
- [4875] S. Duane, A.D. Kennedy, B.J. Pendleton and D. Roweth, *Hybrid Monte Carlo*, *Phys. Lett. B* **195** (1987) 216 [[INSPIRE](#)].
- [4876] P. Couvares et al., *Gravitational Wave Data Analysis: Computing Challenges in the 3G Era*, [arXiv:2111.06987](https://arxiv.org/abs/2111.06987) [[INSPIRE](#)].
- [4877] C. Messick et al., *Analysis Framework for the Prompt Discovery of Compact Binary Mergers in Gravitational-wave Data*, *Phys. Rev. D* **95** (2017) 042001 [[arXiv:1604.04324](https://arxiv.org/abs/1604.04324)] [[INSPIRE](#)].
- [4878] F. Badaracco, J. Harms and L. Rei, *Joint optimization of seismometer arrays for the cancellation of Newtonian noise from seismic body waves in the Einstein Telescope*, *Class. Quant. Grav.* **41** (2024) 025013 [[arXiv:2310.05709](https://arxiv.org/abs/2310.05709)] [[INSPIRE](#)].
- [4879] ALIGO collaboration, *Sensitivity and performance of the Advanced LIGO detectors in the third observing run*, *Phys. Rev. D* **102** (2020) 062003 [[arXiv:2008.01301](https://arxiv.org/abs/2008.01301)] [[INSPIRE](#)].
- [4880] S. Mozzon et al., *Dynamic Normalization for Compact Binary Coalescence Searches in Non-Stationary Noise*, *Class. Quant. Grav.* **37** (2020) 215014 [[arXiv:2002.09407](https://arxiv.org/abs/2002.09407)] [[INSPIRE](#)].
- [4881] S. Mozzon, G. Ashton, L.K. Nuttall and A.R. Williamson, *Does nonstationary noise in LIGO and Virgo affect the estimation of  $H_0$ ?*, *Phys. Rev. D* **106** (2022) 043504 [[arXiv:2110.11731](https://arxiv.org/abs/2110.11731)] [[INSPIRE](#)].
- [4882] T.B. Littenberg and N.J. Cornish, *Prototype global analysis of LISA data with multiple source types*, *Phys. Rev. D* **107** (2023) 063004 [[arXiv:2301.03673](https://arxiv.org/abs/2301.03673)] [[INSPIRE](#)].
- [4883] VIRGO collaboration, *Virgo Detector Characterization and Data Quality during the O3 run*, [arXiv:2205.01555](https://arxiv.org/abs/2205.01555) [[INSPIRE](#)].
- [4884] KAGRA collaboration, *Overview of KAGRA: Calibration, detector characterization, physical environmental monitors, and the geophysics interferometer*, *PTEP* **2021** (2021) 05A102 [[arXiv:2009.09305](https://arxiv.org/abs/2009.09305)] [[INSPIRE](#)].
- [4885] ADVLIGO collaboration, *Environmental noise in advanced LIGO detectors*, *Class. Quant. Grav.* **38** (2021) 145001 [[arXiv:2101.09935](https://arxiv.org/abs/2101.09935)] [[INSPIRE](#)].
- [4886] Y.S.C. Lee, M. Millhouse and A. Melatos, *Impact of noise transients on gravitational-wave burst detection efficiency of the BayesWave pipeline with multidetector networks*, *Phys. Rev. D* **109** (2024) 082002 [[arXiv:2403.16837](https://arxiv.org/abs/2403.16837)] [[INSPIRE](#)].
- [4887] J.Y.L. Kwok, R.K.L. Lo, A.J. Weinstein and T.G.F. Li, *Investigation of the effects of non-Gaussian noise transients and their mitigation in parameterized gravitational-wave tests of general relativity*, *Phys. Rev. D* **105** (2022) 024066 [[arXiv:2109.07642](https://arxiv.org/abs/2109.07642)] [[INSPIRE](#)].
- [4888] R. Macas et al., *Impact of noise transients on low latency gravitational-wave event localization*, *Phys. Rev. D* **105** (2022) 103021 [[arXiv:2202.00344](https://arxiv.org/abs/2202.00344)] [[INSPIRE](#)].

- [4889] J. Powell, *Parameter Estimation and Model Selection of Gravitational Wave Signals Contaminated by Transient Detector Noise Glitches*, *Class. Quant. Grav.* **35** (2018) 155017 [[arXiv:1803.11346](#)] [[INSPIRE](#)].
- [4890] D. Davis et al., *Subtracting glitches from gravitational-wave detector data during the third LIGO-Virgo observing run*, *Class. Quant. Grav.* **39** (2022) 245013 [[arXiv:2207.03429](#)] [[INSPIRE](#)].
- [4891] F. Di Renzo, *Gravitational-wave event validation by Advanced LIGO and Advanced Virgo detectors. Procedures and challenges for the upcoming observing runs*, *PoS ICHEP2022* (2022) 110 [[INSPIRE](#)].
- [4892] S. Chatterji et al., *Coherent network analysis technique for discriminating gravitational-wave bursts from instrumental noise*, *Phys. Rev. D* **74** (2006) 082005 [[gr-qc/0605002](#)] [[INSPIRE](#)].
- [4893] I.W. Harry and S. Fairhurst, *A targeted coherent search for gravitational waves from compact binary coalescences*, *Phys. Rev. D* **83** (2011) 084002 [[arXiv:1012.4939](#)] [[INSPIRE](#)].
- [4894] L. Wen and B.F. Schutz, *Coherent network detection of gravitational waves: The Redundancy veto*, *Class. Quant. Grav.* **22** (2005) S1321 [[gr-qc/0508042](#)] [[INSPIRE](#)].
- [4895] S. Jarov et al., *A new method to distinguish gravitational-wave signals from detector noise transients with Gravity Spy*, [arXiv:2307.15867](#) [[INSPIRE](#)].
- [4896] R. Essick et al., *iDQ: Statistical Inference of Non-Gaussian Noise with Auxiliary Degrees of Freedom in Gravitational-Wave Detectors*, [arXiv:2005.12761](#) [[DOI:10.1088/2632-2153/abab5f](#)] [[INSPIRE](#)].
- [4897] A. Viets et al., *Reconstructing the calibrated strain signal in the Advanced LIGO detectors*, *Class. Quant. Grav.* **35** (2018) 095015 [[arXiv:1710.09973](#)] [[INSPIRE](#)].
- [4898] VIRGO collaboration, *Calibration of advanced Virgo and reconstruction of the detector strain  $h(t)$  during the observing run O3*, *Class. Quant. Grav.* **39** (2022) 045006 [[arXiv:2107.03294](#)] [[INSPIRE](#)].
- [4899] S. Vitale et al., *Physical approach to the marginalization of LIGO calibration uncertainties*, *Phys. Rev. D* **103** (2021) 063016 [[arXiv:2009.10192](#)] [[INSPIRE](#)].
- [4900] E. Payne et al., *Gravitational-wave astronomy with a physical calibration model*, *Phys. Rev. D* **102** (2020) 122004 [[arXiv:2009.10193](#)] [[INSPIRE](#)].
- [4901] Y. Huang et al., *Impact of calibration uncertainties on Hubble constant measurements from gravitational-wave sources*, *Phys. Rev. D* **111** (2025) 063034 [[arXiv:2204.03614](#)] [[INSPIRE](#)].
- [4902] J. Yousuf, S. Kandhasamy and M.A. Malik, *Effects of calibration uncertainties on the detection and parameter estimation of isotropic gravitational-wave backgrounds*, *Phys. Rev. D* **107** (2023) 102002 [[arXiv:2301.13531](#)] [[INSPIRE](#)].
- [4903] F. Cireddu et al., *Likelihood for a network of gravitational-wave detectors with correlated noise*, *Phys. Rev. D* **110** (2024) 104060 [[arXiv:2312.14614](#)] [[INSPIRE](#)].
- [4904] T.A. Prince, M. Tinto, S.L. Larson and J.W. Armstrong, *The LISA optimal sensitivity*, *Phys. Rev. D* **66** (2002) 122002 [[gr-qc/0209039](#)] [[INSPIRE](#)].

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