

Supplemental Material - $^{140}\text{Ce}(n,\gamma)$ resonance parameters

TABLE I: Resonance parameters for ^{140}Ce for neutron energies lower than 65 keV. The correlation between scattering and capture width is and the resonance kernel are reported. For the unfitted resonances the table contains the Γ_n from JENDL-5 and the average Γ_γ calculated on the basis of n_TOF data, no correlation is present in this cases.

^{140}Ce Resonance parameters						
Energy [keV]	J	l	Γ_n [mb]	Γ_γ [mb]	Correlation	Kernel [mb]
2.543	1.5	1	425.744 (4.404)	59.625 (0.363)	35.00	104.6 (0.6)
5.637	0.5	1	297.82 (69.80)	23.340 (0.956)	92.00	21.6 (1.2)
6.003	0.5	0	1062.91 (44.62)	41.923 (0.779)	65.00	40.3 (0.8)
6.324	0.5	1	3.323 (1.431)	19.93 (20.07)	-37.00	2.8 (1.0)
6.777	1.5	1	353.31 (56.00)	24.497 (1.105)	95.00	45.8 (2.4)
8.387	0.5	1	1166.18 (94.62)	78.318 (1.842)	83.00	73.4 (1.9)
9.567	0.5	0	51323.2 (446.9)	66.385 (1.426)	-1.00	66.3 (1.4)
10.322	0.5	1	7.884 (1.018)	53.24 (45.64)	-84.00	6.9 (0.4)
11.224	1.5	1	992.5 (130.5)	52.571 (2.319)	-50.00	99.9 (3.9)
11.428	0.5	1	15938.1 (326.8)	57.034 (1.490)	2.00	56.8 (1.5)
11.466	1.5	1	58.59 (13.27)	44.29 (10.50)	-99.00	50.4 (2.1)
11.741	0.5	1	15.576 (3.729)	53.22 (44.45)	-92.00	12.0 (0.9)
12.470	0.5	0	37923.7 (563.8)	83.550 (1.857)	10.00	83.4 (1.8)
12.503	0.5	1	3.000	42.00 (21.00)	-	2.80 (0.09)
13.167	0.5	1	48.93 (28.81)	68.11 (54.34)	-100.00	28.5 (0.3)
13.956	0.5	1	13.601 (5.763)	48.36 (46.65)	-56.00	10.6 (2.9)
14.005	1.5	1	1958.3 (219.5)	58.273 (2.137)	87.00	113.2 (4.4)
15.807	0.5	1	9.905 (2.098)	50.00 (48.93)	-84.00	8.3 (0.8)
16.135	0.5	1	6253.9 (138.1)	35.249 (1.435)	11.00	35.1 (1.4)
16.410	1.5	1	3009.5 (484.7)	54.725 (2.093)	54.00	107.5 (4.2)
18.112	1.5	1	34.26 (24.09)	32.10 (20.57)	0.00	33 (16)
18.145	0.5	0	81399 (1454)	31.524 (3.728)	10.00	31.5 (3.7)
18.159	0.5	1	25.24 (25.39)	32.96 (32.62)	-99.00	14.3 (2.2)
18.768	1.5	1	39.12 (20.87)	62.81 (53.40)	-99.00	48.2 (2.2)
20.463	0.5	1	40.44 (18.47)	76.27 (65.74)	-98.00	26.4 (1.6)
21.026	0.5	1	42.35 (37.81)	21.44 (10.32)	-85.00	14.2 (2.4)
21.198	1.5	1	6925.5 (369.3)	88.823 (2.075)	40.00	175.4 (4.1)
21.584	0.5	0	544057 (5123)	53.977 (4.408)	-6.00	54.0 (4.4)
22.452	0.5	1	50.85 (25.15)	61.48 (37.89)	-97.00	27.8 (1.9)
23.546	1.5	1	39.86 (26.88)	51.80 (44.85)	-99.00	45.1 (2.4)
23.690	1.5	1	227.8 (170.9)	29.511 (2.043)	-73.00	52.3 (3.1)
24.105	0.5	1	34.20 (23.43)	38.85 (30.05)	-96.00	18.2 (1.9)
24.766	0.5	0	60665 (2000)	49.760 (2.878)	9.00	49.7 (2.9)
25.257	1.5	1	4346 (1088)	55.648 (3.888)	85.00	109.9 (7.9)
26.380	1.5	1	9744 (1363)	90.092 (4.351)	74.00	178.5 (8.7)
27.220	0.5	1	159.6 (145.8)	42.25 (10.03)	-89.00	33.4 (3.0)
27.633	0.5	1	40.57 (24.22)	54.28 (42.98)	-96.00	23.2 (2.2)
28.163	0.5	0	90149 (2838)	76.228 (4.283)	11.00	76.2 (4.3)
29.040	0.5	1	71.32 (56.95)	46.58 (23.96)	-97.00	28.2 (2.2)
29.199	0.5	1	1751 (1130)	34.436 (3.293)	62.00	33.8 (3.4)
29.861	1.5	1	340.4 (256.0)	77.28 (11.35)	-93.00	126.0 (6.6)
30.662	0.5	0	23139 (1783)	49.877 (3.259)	19.00	49.8 (3.2)
30.800	1.5	1	99.32 (89.35)	61.67 (32.91)	-99.00	76.1 (3.8)
32.414	1.5	1	50.88 (38.07)	47.28 (32.43)	-98.00	49.0 (3.5)
33.477	1.5	1	3098 (1554)	62.738 (6.593)	79.00	123 (14)
33.650	1.5	1	60.000	51.00 (21.00)	-	55 (12)
33.786	1.5	1	361.5 (332.2)	58.35 (53.16)	-2.00	100 (80)
34.575	0.5	1	2700.000	42.00 (21.00)	-	41 (20)

Continuation of Table I						
Energy [keV]	J	l	Γ_n [mb]	Γ_γ [mb]	Correlation	Kernel [mb]
34.950	0.5	1	36.000	42.00 (21.00)	-	19.4 (4.5)
38.085	0.5	1	50.31 (25.99)	62.33 (40.21)	-84.00	27.8 (4.5)
38.170	0.5	0	44948 (3404)	23.555 (2.401)	3.00	23.5 (2.4)
38.280	1.5	1	85.75 (61.25)	53.10 (21.82)	-95.00	65.6 (5.6)
39.013	0.5	1	32.94 (19.60)	33.32 (20.00)	-66.00	16.6 (4.1)
39.121	1.5	1	357.0 (321.7)	42.67 (29.99)	-99.00	76 (41)
39.651	1.5	1	1640 (1079)	84.614 (6.282)	55.00	161 (15)
40.099	1.5	1	940.5 (835.0)	35.627 (4.555)	19.00	68.7 (9.1)
40.883	1.5	1	1821.8 (267.4)	46.392 (3.587)	25.00	90.5 (6.9)
41.479	1.5	1	1151.6 (976.5)	38.141 (3.965)	49.00	73.8 (8.6)
41.851	0.5	0	249230 (11359)	27.209 (2.660)	-1.00	27.2 (2.7)
41.970	0.5	1	24.000	42.00 (21.00)	-	15.3 (2.8)
42.482	1.5	1	142.5 (145.9)	20.286 (4.143)	-58.00	35.5 (5.2)
42.570	1.5	1	1196 (1087)	21.477 (3.246)	37.00	42.2 (6.5)
43.765	1.5	1	571.3 (549.3)	30.139 (3.068)	6.00	57.3 (6.3)
44.350	0.5	1	91.000	42.00 (21.00)	-	28.7 (9.8)
44.620	0.5	1	2900.000	42.00 (21.00)	-	41 (20)
45.140	1.5	1	36.000	51.00 (21.00)	-	42.2 (7.2)
45.280	0.5	1	180.000	42.00 (21.00)	-	34 (14)
45.560	0.5	1	36.000	42.00 (21.00)	-	19.4 (4.5)
46.123	1.5	1	267.9 (257.8)	36.280 (4.822)	-72.00	63.9 (5.5)
46.550	1.5	1	102.4 (108.1)	19.831 (8.849)	-89.00	33.2 (7.8)
46.750	1.5	1	73.44 (74.70)	27.23 (10.74)	-89.00	39.7 (5.3)
48.492	1.5	1	1301.1 (978.6)	45.729 (3.885)	48.00	88.4 (8.6)
49.332	1.5	1	4475.5 (460.1)	55.187 (4.846)	15.00	109.0 (9.5)
49.407	0.5	0	47936 (1160)	93.79 (10.90)	8.00	94 (11)
49.671	1.5	1	461.8 (458.3)	58.000 (7.805)	-75.00	103.1 (8.4)
49.848	1.5	1	341.7 (323.5)	48.340 (6.243)	-74.00	84.7 (7.0)
50.300	0.5	1	250.000	42.00 (21.00)	-	36 (15)
50.580	0.5	1	36.000	42.00 (21.00)	-	19.4 (4.5)
51.100	0.5	1	76.000	42.00 (21.00)	-	27.1 (8.7)
51.550	1.5	1	59.000	51.00 (21.00)	-	55 (12)
52.248	1.5	1	739.2 (674.4)	59.687 (4.540)	-20.00	110.5 (9.7)
52.750	0.5	1	810.000	42.00 (21.00)	-	40 (19)
53.085	1.5	1	3712.2 (755.7)	84.343 (5.830)	18.00	165 (11)
53.165	0.5	1	23953 (1435)	38.386 (9.261)	41.00	38.3 (9.2)
53.580	0.5	1	2200.000	42.00 (21.00)	-	41 (20)
53.830	0.5	1	24.000	42.00 (21.00)	-	15.3 (2.8)
54.200	0.5	1	810.000	42.00 (21.00)	-	40 (19)
54.550	1.5	1	300.000	51.00 (21.00)	-	87 (31)
55.111	0.5	0	211279 (11478)	49.694 (4.645)	1.00	49.7 (4.6)
55.608	1.5	1	1748 (1612)	30.346 (4.662)	38.00	59.7 (9.4)
56.280	1.5	1	400.000	51.00 (21.00)	-	90 (33)
58.432	1.5	1	116.4 (113.9)	36.45 (12.34)	-82.00	55.5 (8.3)
59.429	1.5	1	355.5 (335.3)	53.123 (7.280)	-78.00	92.4 (7.4)
59.630	0.5	1	140.000	42.00 (21.00)	-	32 (12)
59.850	0.5	1	250.000	42.00 (21.00)	-	36 (15)
60.272	1.5	1	25709.5 (779.4)	23.515 (5.687)	0.00	47 (11)
60.543	1.5	1	11044.5 (746.6)	92.021 (6.014)	0.00	183 (12)
61.418	1.5	1	336.6 (327.0)	58.475 (9.448)	-85.00	99.6 (7.7)
61.907	1.5	1	798.5 (813.5)	31.004 (3.745)	5.00	59.7 (7.4)
62.855	0.5	0	75391 (2963)	33.38 (13.09)	0.00	33 (13)
62.973	1.5	1	13756 (5805)	79.465 (8.247)	53.00	158 (17)
64.326	1.5	1	2681 (1744)	101.660 (7.186)	51.00	196 (16)
End of Table						