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1 RR_UNC - Calculate uncertainties in reaction rates
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4 Version Jul. 2019
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6
7 Reference x.s. file      :
8 ..\IRDFF-II.g725
9 Source spectrum file    :
10 ..\IRDFF-II_sp.g
11 Reaction rate integ.flag :      1
12 Reaction rate norm. flag :      1
13
14 Spectrum MAT No.       :    9900
15 Spectrum Integral      :    6.000E+07
16 Spectrum average energy [eV] :    3.000E+07
17 Spectrum peak energy [eV] :    5.899E+07
18 Reaction rate RR = spectrum integral

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No.	Mat.	MT	E(50%) [MeV]	<RR> +/- [mb]	Unc	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
19	1	3000	1	16.8108	5.9213E+10 +/- 0.000E+00	0.00	0.00	0.00
20	2	3000	2	18.0682	4.7811E+10 +/- 0.000E+00	0.00	0.00	0.00
21	3	3000	205	14.979	6.6807E+09 +/- 7.773E+08	11.63	0.00	11.63
22	4	3000	207	20.2093	1.0984E+10 +/- 1.544E+09	14.05	0.00	14.05
23	5	3006	1	13.7523	5.0686E+10 +/- 0.000E+00	0.00	0.00	0.00
24	6	3006	2	16.7141	3.7458E+10 +/- 0.000E+00	0.00	0.00	0.00
25	7	3006	105	2.33184	2.0837E+09 +/- 2.906E+07	1.39	0.00	1.39
26	8	3006	205	2.33184	2.0837E+09 +/- 2.906E+07	1.39	0.00	1.39
27	9	3006	207	17.599	2.1756E+10 +/- 2.704E+09	12.43	0.00	12.43
28	10	3007	1	19.1029	6.5014E+10 +/- 0.000E+00	0.00	0.00	0.00
29	11	3007	2	18.1589	4.8662E+10 +/- 0.000E+00	0.00	0.00	0.00
30	12	3007	205	15.2055	7.0583E+09 +/- 8.411E+08	11.92	0.00	11.92
31	13	3007	207	20.6544	1.0100E+10 +/- 1.656E+09	16.39	0.00	16.39
32	14	5000	1	22.8973	7.3936E+10 +/- 0.000E+00	0.00	0.00	0.00
33	15	5000	2	21.0245	5.0613E+10 +/- 0.000E+00	0.00	0.00	0.00
34	16	5000	101	12.8371	2.1053E+09 +/- 0.000E+00	0.00	0.00	0.00
35	17	5000	205	16.9426	8.7834E+08 +/- 1.191E+08	13.56	0.00	13.56
36	18	5000	207	27.8851	1.4990E+10 +/- 1.969E+09	13.13	0.00	13.13
37	19	5010	1	22.5903	7.6045E+10 +/- 0.000E+00	0.00	0.00	0.00
38	20	5010	2	23.2914	5.2343E+10 +/- 0.000E+00	0.00	0.00	0.00
39	21	5010	101	9.47823	8.2381E+09 +/- 0.000E+00	0.00	0.00	0.00
40	22	5010	107	2.78791	3.3440E+09 +/- 5.167E+08	15.45	0.00	15.45
41	23	5010	205	11.8942	2.7733E+09 +/- 2.574E+08	9.28	0.00	9.28
42	24	5010	207	24.9203	3.0959E+10 +/- 4.114E+09	13.29	0.00	13.29
43	25	5010	800	3.49128	1.4332E+09 +/- 4.059E+08	28.32	0.00	28.32
44	26	5010	801	1.62494	1.9108E+09 +/- 3.197E+08	16.73	0.00	16.73
45	27	5011	1	22.8076	7.2961E+10 +/- 0.000E+00	0.00	0.00	0.00
46	28	5011	2	20.3377	5.0106E+10 +/- 0.000E+00	0.00	0.00	0.00
47	29	5011	205	22.7955	4.0755E+08 +/- 1.342E+08	32.92	0.00	32.92
48	30	5011	207	29.7258	1.1023E+10 +/- 2.235E+09	20.28	0.00	20.28
49	31	9019	16	25.9689	1.7385E+09 +/- 8.402E+07	4.83	0.00	4.83
50	32	11023	1	26.6035	1.0592E+11 +/- 0.000E+00	0.00	0.00	0.00
51	33	11023	2	29.4328	6.7660E+10 +/- 0.000E+00	0.00	0.00	0.00
52	34	11023	16	26.1537	2.4921E+09 +/- 1.264E+08	5.07	0.00	5.07
53	35	11023	102	10.9111	4.7907E+06 +/- 1.909E+05	3.99	0.00	3.99
54	36	12000	11024g	18.8626	2.7426E+09 +/- 1.696E+08	6.18	0.00	6.18
55	37	12024	103	15.3761	2.5725E+09 +/- 7.882E+07	3.06	0.00	3.06
56	38	13027	16	29.6821	4.1618E+09 +/- 2.289E+08	5.50	0.00	5.50
57	39	13027	103	13.7375	1.4236E+09 +/- 3.848E+08	27.03	0.00	27.03
58	40	13027	107	14.1656	1.2892E+09 +/- 1.657E+07	1.29	0.00	1.29
59	41	13027	11024g	17.0779	1.8612E+09 +/- 8.853E+08	47.56	0.00	47.56
60	42	13027	13026g	28.4919	2.6212E+09 +/- 1.769E+08	6.75	0.00	6.75
61	43	13027	13026m	31.6745	1.5406E+09 +/- 1.453E+08	9.43	0.00	9.43
62	44	14000	13028g	14.7982	3.8898E+09 +/- 1.206E+08	3.10	0.00	3.10
63	45	14028	103	13.9143	3.7514E+09 +/- 1.079E+08	2.88	0.00	2.88
64	46	14029	13028g	31.9842	7.1706E+09 +/- 1.279E+09	17.84	0.00	17.84

68	47	15031	103	13.1031	2.7535E+09	+/-	1.483E+08	5.39	0.00	5.39
69	48	16000	15032g	11.7353	5.5082E+09	+/-	1.603E+08	2.91	0.00	2.91
70	49	16032	103	11.4249	5.5597E+09	+/-	1.554E+08	2.80	0.00	2.80
71	50	21045	1	28.5105	1.4694E+11	+/-	0.000E+00	0.00	0.00	0.00
72	51	21045	2	29.8604	8.3220E+10	+/-	0.000E+00	0.00	0.00	0.00
73	52	21045	102	1.88016	3.8203E+07	+/-	3.044E+06	7.97	0.00	7.97
74	53	22000	21046g	41.2811	4.9887E+09	+/-	1.862E+09	37.33	0.00	37.33
75	54	22000	21047g	35.3238	5.0561E+09	+/-	6.494E+08	12.84	0.00	12.84
76	55	22000	21048g	27.271	1.2285E+09	+/-	1.009E+08	8.21	0.00	8.21
77	56	22000	22045g	34.9779	6.5254E+08	+/-	3.639E+07	5.58	0.00	5.58
78	57	22046	16	28.1553	5.5639E+09	+/-	3.814E+08	6.86	0.00	6.86
79	58	22046	103	14.1463	4.5522E+09	+/-	2.227E+08	4.89	0.00	4.89
80	59	22047	103	15.585	2.7157E+09	+/-	1.690E+08	6.22	0.00	6.22
81	60	22048	103	21.0311	1.1686E+09	+/-	9.888E+07	8.46	0.00	8.46
82	61	23051	107	19.6728	2.9638E+08	+/-	5.999E+07	20.24	0.00	20.24
83	62	23051	21048g	39.4879	6.1419E+08	+/-	1.300E+09	211.73	0.00	211.73
84	63	24000	24051g	26.733	1.2593E+10	+/-	1.194E+09	9.48	0.00	9.48
85	64	25055	1	27.8731	1.5613E+11	+/-	0.000E+00	0.00	0.00	0.00
86	65	25055	2	28.6139	8.5444E+10	+/-	0.000E+00	0.00	0.00	0.00
87	66	25055	16	21.5298	1.5409E+10	+/-	7.417E+08	4.81	0.00	4.81
88	67	25055	102	1.60045	2.5174E+07	+/-	1.522E+07	60.44	0.00	60.44
89	68	26000	24051g	47.0125	8.8137E+08	+/-	5.367E+08	60.89	0.00	60.89
90	69	26000	25054g	43.012	6.0084E+09	+/-	2.350E+09	39.10	0.00	39.10
91	70	26000	25056g	18.5109	1.7877E+09	+/-	1.189E+08	6.65	0.00	6.65
92	71	26000	26053g	43.5553	2.5150E+08	+/-	4.760E+07	18.92	0.00	18.92
93	72	26054	1	27.6332	1.5472E+11	+/-	0.000E+00	0.00	0.00	0.00
94	73	26054	2	28.1248	8.6983E+10	+/-	0.000E+00	0.00	0.00	0.00
95	74	26054	16	33.2984	2.8650E+09	+/-	8.009E+08	27.95	0.00	27.95
96	75	26054	103	11.3818	7.6194E+09	+/-	2.423E+08	3.18	0.00	3.18
97	76	26054	107	16.4391	1.2654E+09	+/-	2.537E+08	20.05	0.00	20.05
98	77	26056	103	17.7821	1.8524E+09	+/-	1.293E+08	6.98	0.00	6.98
99	78	26058	1	27.2428	1.6704E+11	+/-	0.000E+00	0.00	0.00	0.00
100	79	26058	2	28.0679	9.0493E+10	+/-	0.000E+00	0.00	0.00	0.00
101	80	26058	102	13.0422	2.9412E+07	+/-	2.998E+06	10.19	0.00	10.19
102	81	27059	1	27.8747	1.6313E+11	+/-	0.000E+00	0.00	0.00	0.00
103	82	27059	2	30.121	9.8678E+10	+/-	0.000E+00	0.00	0.00	0.00
104	83	27059	16	22.1695	1.5466E+10	+/-	1.253E+09	8.10	0.00	8.10
105	84	27059	17	35.5709	6.7822E+09	+/-	2.958E+08	4.36	0.00	4.36
106	85	27059	102	1.45617	4.2974E+07	+/-	1.544E+06	3.59	0.00	3.59
107	86	27059	103	19.5722	1.1004E+09	+/-	5.526E+07	5.02	0.00	5.02
108	87	27059	107	15.6261	3.5958E+08	+/-	3.117E+07	8.67	0.00	8.67
109	88	27059	25056g	36.8206	7.2481E+08	+/-	9.823E+08	135.52	0.00	135.52
110	89	28000	27058g	12.537	7.3747E+09	+/-	7.482E+08	10.15	0.00	10.15
111	90	28000	27060g	20.2473	7.4326E+08	+/-	9.385E+07	12.63	0.00	12.63
112	91	28000	28057g	27.3628	1.3108E+09	+/-	6.171E+07	4.71	0.00	4.71
113	92	28058	16	27.1879	1.9006E+09	+/-	9.061E+07	4.77	0.00	4.77
114	93	28058	103	10.4601	8.4072E+09	+/-	2.136E+08	2.54	0.00	2.54
115	94	28060	103	14.902	2.0183E+09	+/-	1.145E+08	5.68	0.00	5.68
116	95	29000	27060g	44.867	1.1358E+09	+/-	7.469E+08	65.76	0.00	65.76
117	96	29000	29062g	24.7059	1.0504E+10	+/-	7.740E+08	7.37	0.00	7.37
118	97	29000	29064g	19.0778	4.4382E+09	+/-	1.956E+08	4.41	0.00	4.41
119	98	29063	1	27.7458	1.6808E+11	+/-	0.000E+00	0.00	0.00	0.00
120	99	29063	2	28.0144	9.0156E+10	+/-	0.000E+00	0.00	0.00	0.00
121	100	29063	16	23.2288	1.3708E+10	+/-	1.111E+09	8.11	0.00	8.11
122	101	29063	102	8.1777	1.2513E+08	+/-	9.311E+06	7.44	0.00	7.44
123	102	29063	107	14.1349	5.1085E+08	+/-	4.316E+07	8.45	0.00	8.45
124	103	29065	16	19.1424	1.4106E+10	+/-	6.336E+08	4.49	0.00	4.49
125	104	30000	29064g	30.7249	3.6391E+09	+/-	7.735E+08	21.25	0.00	21.25
126	105	30000	29067g	32.4581	4.8823E+08	+/-	7.312E+07	14.98	0.00	14.98
127	106	30064	103	12.1149	3.9488E+09	+/-	1.170E+08	2.96	0.00	2.96
128	107	30067	103	23.097	9.8595E+08	+/-	1.049E+08	10.64	0.00	10.64
129	108	30068	1	27.6297	1.7583E+11	+/-	0.000E+00	0.00	0.00	0.00
130	109	30068	2	28.1512	9.8792E+10	+/-	0.000E+00	0.00	0.00	0.00
131	110	30068	29067g	33.2713	2.4303E+09	+/-	3.956E+08	16.28	0.00	16.28
132	111	33075	16	21.8932	2.0725E+10	+/-	1.368E+09	6.60	0.00	6.60
133	112	39089	16	22.3833	2.1827E+10	+/-	6.273E+08	2.87	0.00	2.87
134	113	40000	40089g	27.5953	1.5664E+10	+/-	1.114E+09	7.11	0.00	7.11
135	114	40090	16	25.0574	2.5184E+10	+/-	1.981E+09	7.86	0.00	7.86
136	115	41093	1	25.8767	2.0672E+11	+/-	0.000E+00	0.00	0.00	0.00

137	116	41093	2	24.0951	1.1092E+11	+/-	0.000E+00	0.00	0.00	0.00
138	117	41093	102	0.58839	1.1785E+08	+/-	2.461E+06	2.09	0.00	2.09
139	118	41093	41093m	7.4494	3.0381E+09	+/-	1.012E+08	3.33	0.00	3.33
140	119	41093	41092m	18.3115	6.7693E+09	+/-	1.434E+08	2.12	0.00	2.12
141	120	41093	41094g	0.58839	2.9431E+07	+/-	6.146E+05	2.09	0.00	2.09
142	121	41093	41094m	0.58839	8.8417E+07	+/-	1.846E+06	2.09	0.00	2.09
143	122	42000	41092m	38.8146	7.0823E+08	+/-	5.776E+08	81.55	0.00	81.55
144	123	42092	41092m	13.7283	1.7266E+09	+/-	5.142E+07	2.98	0.00	2.98
145	124	45103	45103m	8.86605	1.7702E+10	+/-	5.873E+08	3.32	0.00	3.32
146	125	47109	1	25.8703	2.2087E+11	+/-	0.000E+00	0.00	0.00	0.00
147	126	47109	2	25.8419	1.1655E+11	+/-	0.000E+00	0.00	0.00	0.00
148	127	47109	47110n	0.85026	4.3424E+07	+/-	3.893E+06	8.97	0.00	8.97
149	128	48000	1	25.9748	2.2743E+11	+/-	0.000E+00	0.00	0.00	0.00
150	129	48000	2	22.6616	1.1821E+11	+/-	0.000E+00	0.00	0.00	0.00
151	130	48000	101	29.714	2.4451E+09	+/-	0.000E+00	0.00	0.00	0.00
152	131	49000	49114m	20.3197	2.2972E+10	+/-	1.368E+09	5.96	0.00	5.96
153	132	49113	1	25.1299	2.1571E+11	+/-	0.000E+00	0.00	0.00	0.00
154	133	49113	2	21.029	1.0948E+11	+/-	0.000E+00	0.00	0.00	0.00
155	134	49113	102	1.23784	9.0717E+08	+/-	0.000E+00	0.00	0.00	0.00
156	135	49113	49113m	8.19465	3.7258E+09	+/-	1.753E+08	4.70	0.00	4.70
157	136	49113	49114g	1.13704	1.8381E+08	+/-	6.187E+06	3.37	0.00	3.37
158	137	49113	49114m	1.26155	7.2336E+08	+/-	2.594E+07	3.59	0.00	3.59
159	138	49115	1	25.7869	2.2125E+11	+/-	0.000E+00	0.00	0.00	0.00
160	139	49115	2	23.4529	1.2714E+11	+/-	0.000E+00	0.00	0.00	0.00
161	140	49115	102	1.22587	6.7266E+08	+/-	0.000E+00	0.00	0.00	0.00
162	141	49115	49115m	8.63247	4.7133E+09	+/-	1.595E+08	3.38	0.00	3.38
163	142	49115	49114m	20.3338	2.3970E+10	+/-	1.429E+09	5.96	0.00	5.96
164	143	49115	49116g	1.11624	1.2795E+08	+/-	2.992E+06	2.34	0.00	2.34
165	144	49115	49116m	1.25195	5.4471E+08	+/-	1.304E+07	2.39	0.00	2.39
166	145	53127	16	17.9802	2.0688E+10	+/-	8.823E+08	4.26	0.00	4.26
167	146	57139	1	25.7365	2.3700E+11	+/-	0.000E+00	0.00	0.00	0.00
168	147	57139	2	23.4998	1.3547E+11	+/-	0.000E+00	0.00	0.00	0.00
169	148	57139	102	2.88597	5.0870E+07	+/-	2.832E+06	5.57	0.00	5.57
170	149	59141	16	19.7812	2.8926E+10	+/-	1.737E+09	6.01	0.00	6.01
171	150	64000	1	26.287	2.7714E+11	+/-	0.000E+00	0.00	0.00	0.00
172	151	64000	2	25.0807	1.3937E+11	+/-	0.000E+00	0.00	0.00	0.00
173	152	64000	101	23.5024	1.1813E+09	+/-	0.000E+00	0.00	0.00	0.00
174	153	69169	16	16.7997	2.7356E+10	+/-	1.247E+09	4.56	0.00	4.56
175	154	69169	17	28.0314	2.7464E+10	+/-	1.968E+09	7.17	0.00	7.17
176	155	73181	1	26.3532	2.9761E+11	+/-	0.000E+00	0.00	0.00	0.00
177	156	73181	2	24.9579	1.6127E+11	+/-	0.000E+00	0.00	0.00	0.00
178	157	73181	102	0.66787	4.0927E+08	+/-	1.617E+07	3.95	0.00	3.95
179	158	74186	1	25.8184	2.8965E+11	+/-	0.000E+00	0.00	0.00	0.00
180	159	74186	2	24.263	1.5150E+11	+/-	0.000E+00	0.00	0.00	0.00
181	160	74186	102	1.28729	1.7995E+08	+/-	5.463E+06	3.04	0.00	3.04
182	161	79197	1	25.9807	2.9639E+11	+/-	0.000E+00	0.00	0.00	0.00
183	162	79197	2	22.4483	1.4378E+11	+/-	0.000E+00	0.00	0.00	0.00
184	163	79197	16	17.6353	3.0436E+10	+/-	6.631E+08	2.18	0.00	2.18
185	164	79197	102	0.63763	3.7312E+08	+/-	2.608E+06	0.70	0.00	0.70
186	165	80199	80199m	8.40593	9.1055E+09	+/-	2.765E+08	3.04	0.00	3.04
187	166	82204	82204m	10.7888	2.6549E+09	+/-	7.709E+07	2.90	0.00	2.90
188	167	83209	16	16.1566	2.9709E+10	+/-	9.063E+08	3.05	0.00	3.05
189	168	83209	17	26.7682	2.8844E+10	+/-	1.246E+09	4.32	0.00	4.32
190	169	83209	37	35.1879	1.9098E+10	+/-	1.223E+09	6.40	0.00	6.40
191	170	83209	152	44.9958	1.4674E+10	+/-	9.988E+08	6.81	0.00	6.81
192	171	90232	1	26.1976	3.3733E+11	+/-	0.000E+00	0.00	0.00	0.00
193	172	90232	2	24.5914	1.6520E+11	+/-	0.000E+00	0.00	0.00	0.00
194	173	90232	18	38.0862	3.9598E+10	+/-	8.059E+08	2.04	0.00	2.04
195	174	90232	102	0.93428	3.7994E+08	+/-	1.446E+07	3.81	0.00	3.81
196	175	92235	1	26.0201	3.3658E+11	+/-	0.000E+00	0.00	0.00	0.00
197	176	92235	18	31.0179	1.1358E+11	+/-	1.020E+09	0.90	0.00	0.90
198	177	92238	1	26.3912	3.4248E+11	+/-	0.000E+00	0.00	0.00	0.00
199	178	92238	2	24.0998	1.6927E+11	+/-	0.000E+00	0.00	0.00	0.00
200	179	92238	16	12.9488	1.5686E+10	+/-	8.293E+08	5.29	0.00	5.29
201	180	92238	18	34.6599	8.3633E+10	+/-	8.063E+08	0.96	0.00	0.96
202	181	92238	102	0.92315	2.9141E+08	+/-	6.856E+06	2.35	0.00	2.35
203	182	93237	1	26.5539	3.3855E+11	+/-	0.000E+00	0.00	0.00	0.00
204	183	93237	2	26.5504	1.7735E+11	+/-	0.000E+00	0.00	0.00	0.00
205	184	93237	18	29.905	1.1916E+11	+/-	1.218E+09	1.02	0.00	1.02

206	185	94239	1	25.9549	3.3775E+11	+/-	0.000E+00	0.00	0.00	0.00
207	186	94239	2	24.7737	1.6207E+11	+/-	0.000E+00	0.00	0.00	0.00
208	187	94239	18	29.6577	1.3097E+11	+/-	1.076E+09	0.82	0.00	0.82
209	188	95241	1	26.489	3.4316E+11	+/-	0.000E+00	0.00	0.00	0.00
210	189	95241	2	24.4337	1.7394E+11	+/-	0.000E+00	0.00	0.00	0.00
211	190	95241	18	29.0479	1.2782E+11	+/-	1.800E+09	1.41	0.00	1.41
212										
213										