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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
12 Reaction rate integ.flag :      1
13 Reaction rate norm. flag :      1
14
15 Spectrum MAT No.       :    9041
16 Spectrum Integral      :    3.807E+02
17 Spectrum average energy [eV] :    3.892E+05
18 Spectrum peak energy [eV] :    2.349E-02
19 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 [%]
22	1	3000	1	3.534-8	1.1082E+07 +/- 3.437E+04	0.00	0.31	0.31
23	2	3000	2	2.536-4	4.5664E+05 +/- 1.248E+03	0.00	0.27	0.27
24	3	3000	205	3.404-8	1.0604E+07 +/- 6.362E+04	0.51	0.32	0.60
25	4	3000	207	3.404-8	1.0618E+07 +/- 6.364E+04	0.51	0.32	0.60
26	5	3006	1	3.412-8	1.4014E+08 +/- 4.463E+05	0.00	0.32	0.32
27	6	3006	2	9.889-3	3.8753E+05 +/- 1.196E+03	0.00	0.31	0.31
28	7	3006	105	3.403-8	1.3970E+08 +/- 8.381E+05	0.51	0.32	0.60
29	8	3006	205	3.403-8	1.3970E+08 +/- 8.381E+05	0.51	0.32	0.60
30	9	3006	207	3.404-8	1.3971E+08 +/- 8.381E+05	0.51	0.32	0.60
31	10	3007	1	2.960-4	4.8198E+05 +/- 1.305E+03	0.00	0.27	0.27
32	11	3007	2	2.020-4	4.6232E+05 +/- 1.260E+03	0.00	0.27	0.27
33	12	3007	205	5.91874	1.3554E+03 +/- 4.331E+01	2.44	2.07	3.20
34	13	3007	207	3.816-8	1.4884E+04 +/- 4.963E+02	3.32	0.35	3.33
35	14	5000	1	3.435-8	1.1549E+08 +/- 3.660E+05	0.00	0.32	0.32
36	15	5000	2	2.104-7	1.5086E+06 +/- 3.341E+03	0.00	0.22	0.22
37	16	5000	101	3.402-8	1.1391E+08 +/- 3.636E+05	0.00	0.32	0.32
38	17	5000	205	2.14441	8.8771E+02 +/- 1.357E+02	15.28	0.60	15.29
39	18	5000	207	3.402-8	1.1390E+08 +/- 9.549E+05	0.78	0.32	0.84
40	19	5010	1	3.405-8	5.7362E+08 +/- 1.830E+06	0.00	0.32	0.32
41	20	5010	2	5.988-6	8.5684E+05 +/- 1.942E+03	0.00	0.23	0.23
42	21	5010	101	3.402-8	5.7240E+08 +/- 1.827E+06	0.00	0.32	0.32
43	22	5010	107	3.402-8	5.7234E+08 +/- 4.798E+06	0.78	0.32	0.84
44	23	5010	205	2.1434	4.4593E+03 +/- 6.821E+02	15.29	0.60	15.30
45	24	5010	207	3.402-8	5.7235E+08 +/- 4.798E+06	0.78	0.32	0.84
46	25	5010	800	3.404-8	3.6062E+07 +/- 3.258E+05	0.85	0.32	0.90
47	26	5010	801	3.402-8	5.3628E+08 +/- 4.746E+06	0.83	0.32	0.88
48	27	5011	1	1.741-7	1.6735E+06 +/- 3.717E+03	0.00	0.22	0.22
49	28	5011	2	1.730-7	1.6708E+06 +/- 3.713E+03	0.00	0.22	0.22
50	29	5011	205	12.4836	3.9000E-01 +/- 1.103E-01	16.76	22.77	28.27
51	30	5011	207	11.0666	1.6932E+01 +/- 3.192E+00	13.81	12.82	18.85
52	31	9019	16	14.4316	5.0172E-01 +/- 1.738E-01	3.22	34.49	34.64
53	32	11023	1	2.663-3	1.9442E+06 +/- 1.622E+04	0.00	0.83	0.83
54	33	11023	2	2.703-3	1.8260E+06 +/- 1.617E+04	0.00	0.89	0.89
55	34	11023	16	14.9343	2.3263E-01 +/- 1.309E-01	1.55	56.23	56.25
56	35	11023	102	3.436-8	8.0454E+04 +/- 1.452E+03	1.78	0.32	1.80
57	36	12000	11024g	8.17472	7.6995E+01 +/- 3.553E+00	0.82	4.54	4.61
58	37	12024	103	8.17462	9.7462E+01 +/- 4.497E+00	0.82	4.54	4.61
59	38	13027	16	14.9388	1.7906E-01 +/- 1.046E-01	2.42	58.36	58.41
60	39	13027	103	5.73722	2.4806E+02 +/- 6.959E+00	2.06	1.91	2.81
61	40	13027	107	8.50826	4.6087E+01 +/- 2.338E+00	0.73	5.02	5.07
62	41	13027	11024g	8.50826	4.6087E+01 +/- 2.338E+00	0.73	5.02	5.07
63	42	13027	13026g	14.9385	1.7569E-01 +/- 1.027E-01	2.43	58.41	58.46
64	43	13027	13026m	14.9548	3.3681E-03 +/- 2.097E-03	22.30	58.14	62.27
65	44	14000	13028g	7.09065	3.2145E+02 +/- 1.304E+01	2.54	3.16	4.06
66	45	14028	103	7.09061	3.4855E+02 +/- 1.414E+01	2.54	3.16	4.06
67	46	14029	13028g	14.9135	1.7349E-01 +/- 7.506E-02	4.28	43.05	43.26

68	47	15031	103	3.58479	2.2354E+03	+/-	8.042E+01	3.47	0.95	3.60
69	48	16000	15032g	3.96017	4.0427E+03	+/-	1.103E+02	2.52	1.05	2.73
70	49	16032	103	3.96016	4.2559E+03	+/-	1.161E+02	2.52	1.05	2.73
71	50	21045	1	5.512-8	1.0272E+07	+/-	2.857E+04	0.00	0.28	0.28
72	51	21045	2	8.607-8	6.1707E+06	+/-	1.928E+04	0.00	0.31	0.31
73	52	21045	102	3.400-8	4.0482E+06	+/-	2.715E+05	6.70	0.32	6.71
74	53	22000	21046g	0	5.9186E+01	+/-	2.201E+00	3.15	1.98	3.72
75	54	22000	21047g	0	8.6153E+01	+/-	2.507E+00	2.76	0.93	2.91
76	55	22000	21048g	0	1.4473E+01	+/-	1.032E+00	5.52	4.50	7.13
77	56	22000	22045g	14.9389	2.4167E-02	+/-	1.415E-02	4.98	58.35	58.56
78	57	22046	16	14.9389	2.9293E-01	+/-	1.715E-01	4.98	58.35	58.56
79	58	22046	103	5.91615	7.1691E+02	+/-	2.668E+01	3.15	1.98	3.72
80	59	22047	103	3.57567	1.1570E+03	+/-	3.368E+01	2.76	0.92	2.91
81	60	22048	103	8.1786	1.9628E+01	+/-	1.399E+00	5.53	4.50	7.13
82	61	23051	107	9.72972	1.6286E+00	+/-	1.385E-01	3.14	7.90	8.51
83	62	23051	21048g	9.72972	1.6286E+00	+/-	1.385E-01	3.14	7.90	8.51
84	63	24000	24051g	14.9152	2.4280E+00	+/-	1.131E+00	2.01	46.53	46.57
85	64	25055	1	3.404-4	7.9160E+06	+/-	1.022E+05	0.00	1.29	1.29
86	65	25055	2	3.590-4	5.7887E+06	+/-	1.004E+05	0.00	1.73	1.73
87	66	25055	16	12.4988	1.7004E+01	+/-	3.822E+00	3.05	22.27	22.47
88	67	25055	102	3.536-8	2.0409E+06	+/-	2.571E+04	1.22	0.32	1.26
89	68	26000	24051g	0	4.9543E+00	+/-	2.366E-01	4.32	2.04	4.78
90	69	26000	25054g	0	2.8516E+02	+/-	9.525E+00	3.14	1.15	3.34
91	70	26000	25056g	0	6.4514E+01	+/-	2.816E+00	2.67	3.45	4.36
92	71	26000	26053g	14.9432	3.3504E-03	+/-	2.029E-03	10.77	59.59	60.55
93	72	26054	1	7.457-3	2.0228E+06	+/-	1.660E+04	0.00	0.82	0.82
94	73	26054	2	7.891-3	1.6520E+06	+/-	1.647E+04	0.00	1.00	1.00
95	74	26054	16	14.9432	5.7322E-02	+/-	3.471E-02	10.77	59.59	60.55
96	75	26054	103	4.30384	4.8787E+03	+/-	1.630E+02	3.14	1.15	3.34
97	76	26054	107	6.04984	8.4761E+01	+/-	4.048E+00	4.32	2.04	4.78
98	77	26056	103	7.38315	7.0309E+01	+/-	3.068E+00	2.67	3.45	4.36
99	78	26058	1	1.945-7	2.9008E+06	+/-	8.272E+03	0.00	0.29	0.29
100	79	26058	2	2.364-7	2.5634E+06	+/-	7.813E+03	0.00	0.30	0.30
101	80	26058	102	3.527-8	2.0163E+05	+/-	1.009E+04	4.99	0.33	5.00
102	81	27059	1	8.819-5	1.3822E+07	+/-	2.394E+05	0.00	1.73	1.73
103	82	27059	2	1.315-4	7.7608E+06	+/-	2.191E+05	0.00	2.82	2.82
104	83	27059	16	12.8839	1.3959E+01	+/-	3.479E+00	1.84	24.85	24.92
105	84	27059	102	3.756-8	6.0118E+06	+/-	4.783E+04	0.66	0.44	0.80
106	85	27059	103	5.76667	8.9061E+01	+/-	3.634E+00	3.59	1.93	4.08
107	86	27059	107	8.18729	1.0222E+01	+/-	6.064E-01	3.94	4.43	5.93
108	87	27059	25056g	8.18729	1.0222E+01	+/-	6.064E-01	3.94	4.43	5.93
109	88	28000	27058g	0	4.5883E+03	+/-	9.317E+01	1.74	1.05	2.03
110	89	28000	27060g	0	3.6403E+01	+/-	1.240E+00	1.94	2.80	3.41
111	90	28000	28057g	14.9233	1.7304E-01	+/-	8.667E-02	1.32	50.07	50.09
112	91	28058	16	14.9233	2.5418E-01	+/-	1.273E-01	1.32	50.07	50.09
113	92	28058	103	4.0465	6.7399E+03	+/-	1.369E+02	1.74	1.05	2.03
114	93	28060	103	6.81562	1.3881E+02	+/-	4.729E+00	1.94	2.80	3.41
115	94	29000	27060g	7.06223	2.3474E+01	+/-	1.005E+00	3.04	3.01	4.28
116	95	29000	29062g	14.401	4.3403E+00	+/-	1.439E+00	1.40	33.12	33.15
117	96	29000	29064g	3.563-8	4.7809E+05	+/-	1.948E+04	4.06	0.36	4.08
118	97	29063	1	1.245-7	2.8350E+06	+/-	1.039E+04	0.00	0.37	0.37
119	98	29063	2	1.303-5	2.0903E+06	+/-	9.188E+03	0.00	0.44	0.44
120	99	29063	16	14.401	6.2766E+00	+/-	2.081E+00	1.40	33.12	33.15
121	100	29063	102	3.562-8	6.9137E+05	+/-	2.821E+04	4.06	0.36	4.08
122	101	29063	107	7.06223	3.3946E+01	+/-	1.454E+00	3.04	3.01	4.28
123	102	29065	16	12.2707	2.4318E+01	+/-	4.928E+00	1.99	20.17	20.26
124	103	30000	29064g	4.04948	1.1880E+03	+/-	2.426E+01	1.72	1.10	2.04
125	104	30000	29067g	6.048-8	1.0996E+01	+/-	2.131E+00	19.38	0.55	19.38
126	105	30064	103	4.04948	2.4162E+03	+/-	4.935E+01	1.72	1.10	2.04
127	106	30067	103	6.036-8	2.7189E+02	+/-	5.276E+01	19.40	0.55	19.41
128	107	30068	1	5.079-4	3.1288E+06	+/-	6.103E+04	0.00	1.95	1.95
129	108	30068	2	5.096-4	2.9027E+06	+/-	5.988E+04	0.00	2.06	2.06
130	109	30068	29067g	14.9169	6.1977E-02	+/-	2.987E-02	15.78	45.53	48.19
131	110	33075	16	12.6219	2.2045E+01	+/-	5.220E+00	6.63	22.73	23.68
132	111	39089	16	14.422	1.0897E+01	+/-	3.777E+00	1.37	34.64	34.66
133	112	40000	40089g	14.9049	3.3165E+00	+/-	1.427E+00	0.92	43.02	43.03
134	113	40090	16	14.9049	6.4460E+00	+/-	2.774E+00	0.92	43.02	43.03
135	114	41093	1	2.909-6	2.7792E+06	+/-	6.465E+03	0.00	0.23	0.23
136	115	41093	2	3.157-6	2.4487E+06	+/-	5.681E+03	0.00	0.23	0.23

137	116	41093	102	5.540-8	2.4275E+05	+/-	7.495E+03	3.05	0.51	3.09
138	117	41093	41093m	2.39649	1.0008E+04	+/-	2.739E+02	2.66	0.64	2.74
139	118	41093	41092m	11.0627	3.1575E+01	+/-	4.283E+00	0.90	13.53	13.56
140	119	41093	41094g	5.540-8	6.0624E+04	+/-	1.872E+03	3.05	0.51	3.09
141	120	41093	41094m	5.540-8	1.8213E+05	+/-	5.623E+03	3.05	0.51	3.09
142	121	42000	41092m	5.25813	6.1183E+01	+/-	2.523E+00	3.82	1.55	4.12
143	122	42092	41092m	5.25812	4.2108E+02	+/-	1.737E+01	3.82	1.55	4.12
144	123	45103	45103m	1.9591	5.3843E+04	+/-	2.173E+03	4.00	0.56	4.04
145	124	47109	1	6.375-7	2.7504E+07	+/-	5.162E+05	0.00	1.88	1.88
146	125	47109	2	5.489-6	2.6496E+06	+/-	4.448E+04	0.00	1.68	1.68
147	126	47109	47110n	1.140-7	1.1490E+06	+/-	6.691E+04	5.50	1.91	5.82
148	127	48000	1	5.551-8	5.2812E+08	+/-	1.690E+06	0.00	0.32	0.32
149	128	48000	2	1.562-7	3.4885E+06	+/-	1.084E+04	0.00	0.31	0.31
150	129	48000	101	5.524-8	5.2452E+08	+/-	1.682E+06	0.00	0.32	0.32
151	130	49000	49114m	1.756-6	1.3058E+05	+/-	7.169E+03	5.32	1.34	5.49
152	131	49113	1	1.817-6	6.4500E+06	+/-	6.403E+04	0.00	0.99	0.99
153	132	49113	2	1.021-4	1.8935E+06	+/-	6.348E+03	0.00	0.34	0.34
154	133	49113	102	1.755-6	4.5002E+06	+/-	6.041E+04	0.00	1.34	1.34
155	134	49113	49113m	2.52731	1.0476E+04	+/-	1.448E+02	1.20	0.69	1.38
156	135	49113	49114g	1.753-6	1.4577E+06	+/-	8.045E+04	5.35	1.35	5.52
157	136	49113	49114m	1.756-6	3.0425E+06	+/-	1.671E+05	5.33	1.34	5.49
158	137	49115	1	1.400-7	5.8370E+07	+/-	8.922E+05	0.00	1.53	1.53
159	138	49115	2	1.563-6	2.5167E+06	+/-	3.574E+04	0.00	1.42	1.42
160	139	49115	102	1.131-7	5.5789E+07	+/-	8.569E+05	0.00	1.54	1.54
161	140	49115	49115m	2.45031	1.2771E+04	+/-	2.320E+02	1.69	0.67	1.82
162	141	49115	49114m	11.549	6.5143E+01	+/-	1.045E+01	5.37	15.12	16.04
163	142	49115	49116g	1.131-7	1.1715E+07	+/-	2.521E+05	1.51	1.54	2.15
164	143	49115	49116m	1.131-7	4.4073E+07	+/-	9.485E+05	1.51	1.54	2.15
165	144	53127	16	11.2372	8.4718E+01	+/-	1.248E+01	3.32	14.35	14.73
166	145	57139	1	6.942-8	5.2976E+06	+/-	1.363E+04	0.00	0.26	0.26
167	146	57139	2	9.566-8	3.7943E+06	+/-	9.128E+03	0.00	0.24	0.24
168	147	57139	102	3.594-8	1.4060E+06	+/-	5.557E+04	3.93	0.39	3.95
169	148	59141	16	11.5925	8.0136E+01	+/-	1.571E+01	12.21	15.34	19.61
170	149	64000	1	2.888-8	5.7842E+09	+/-	2.015E+07	0.00	0.35	0.35
171	150	64000	2	4.230-8	2.5134E+07	+/-	7.134E+04	0.00	0.28	0.28
172	151	64000	101	2.883-8	5.7588E+09	+/-	2.009E+07	0.00	0.35	0.35
173	152	69169	16	10.6889	2.5240E+02	+/-	2.641E+01	3.32	9.92	10.46
174	153	69169	17	16.9443	8.1728E-03	+/-	7.393E-03	7.92	90.11	90.46
175	154	73181	1	4.347-6	1.1988E+07	+/-	1.632E+05	0.00	1.36	1.36
176	155	73181	2	3.989-5	3.4318E+06	+/-	2.442E+04	0.00	0.71	0.71
177	156	73181	102	4.258-6	8.3284E+06	+/-	2.660E+05	2.65	1.79	3.19
178	157	74186	1	1.856-5	3.5554E+07	+/-	1.369E+06	0.00	3.85	3.85
179	158	74186	2	1.872-5	2.5917E+07	+/-	1.187E+06	0.00	4.58	4.58
180	159	74186	102	7.917-8	9.4474E+06	+/-	2.848E+05	2.32	1.93	3.01
181	160	79197	1	1.483-7	3.0504E+07	+/-	5.631E+05	0.00	1.85	1.85
182	161	79197	2	5.015-6	4.9430E+06	+/-	6.335E+04	0.00	1.28	1.28
183	162	79197	16	10.778	2.2083E+02	+/-	2.333E+01	1.92	10.39	10.56
184	163	79197	102	8.843-8	2.5405E+07	+/-	5.675E+05	1.05	1.97	2.23
185	164	80199	80199m	2.80732	1.9045E+04	+/-	7.066E+02	3.64	0.72	3.71
186	165	82204	82204m	4.92962	1.1011E+03	+/-	5.342E+01	4.63	1.44	4.85
187	166	83209	16	9.71364	4.2678E+02	+/-	3.911E+01	4.47	8.00	9.16
188	167	83209	17	14.995	2.3197E-02	+/-	1.585E-02	31.78	60.47	68.31
189	168	90232	1	5.402-7	6.7414E+06	+/-	3.473E+04	0.00	0.52	0.52
190	169	90232	2	8.107-7	4.7209E+06	+/-	1.859E+04	0.00	0.39	0.39
191	170	90232	18	2.73699	5.2748E+03	+/-	3.078E+02	5.78	0.77	5.83
192	171	90232	102	7.601-8	1.7891E+06	+/-	2.937E+04	1.13	1.19	1.64
193	172	92235	1	3.383-8	1.0510E+08	+/-	3.334E+05	0.00	0.32	0.32
194	173	92235	18	3.259-8	8.5269E+07	+/-	4.981E+05	0.48	0.33	0.58
195	174	92238	1	2.071-5	7.7763E+06	+/-	1.116E+05	0.00	1.44	1.44
196	175	92238	2	3.667-5	4.8973E+06	+/-	4.350E+04	0.00	0.89	0.89
197	176	92238	16	8.16694	9.6994E+02	+/-	6.723E+01	5.10	4.70	6.93
198	177	92238	18	2.54088	2.0822E+04	+/-	2.965E+02	1.22	0.73	1.42
199	178	92238	102	6.888-6	2.6238E+06	+/-	8.659E+04	1.11	3.11	3.30
200	179	93237	1	4.860-8	3.7267E+07	+/-	1.409E+05	0.00	0.38	0.38
201	180	93237	2	1.093-7	4.7236E+06	+/-	1.077E+04	0.00	0.23	0.23
202	181	93237	18	1.56436	1.1379E+05	+/-	2.462E+03	2.10	0.51	2.16
203	182	94239	1	4.525-8	1.8917E+08	+/-	6.464E+05	0.00	0.34	0.34
204	183	94239	2	4.499-6	3.2010E+06	+/-	7.846E+03	0.00	0.25	0.25
205	184	94239	18	4.181-8	1.2966E+08	+/-	1.446E+06	1.06	0.33	1.12

206	185	95241	1	4.356-8	1.1313E+08	+/- 4.378E+05	0.00	0.39	0.39
207	186	95241	2	4.223-7	3.7356E+06	+/- 8.562E+03	0.00	0.23	0.23
208	187	95241	18	6.175-8	6.7786E+05	+/- 1.214E+04	1.75	0.38	1.79
209									
210									