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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.       :    9044
16 Spectrum Integral      :    1.277E+02
17 Spectrum average energy [eV] :    1.090E+06
18 Spectrum peak energy [eV] :    2.624E+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	0.48642	2.2104E+05 +/- 1.107E+03	0.00	0.50	0.50
23	2	3000	2	0.43972	1.9968E+05 +/- 1.032E+03	0.00	0.52	0.52
24	3	3000	205	0.05543	1.0585E+04 +/- 8.927E+01	0.42	0.73	0.84
25	4	3000	207	0.10125	1.1238E+04 +/- 1.575E+02	1.21	0.71	1.40
26	5	3006	1	0.25602	3.2587E+05 +/- 1.750E+03	0.00	0.54	0.54
27	6	3006	2	0.33716	1.9287E+05 +/- 1.057E+03	0.00	0.55	0.55
28	7	3006	105	0.01906	1.2415E+05 +/- 1.063E+03	0.37	0.77	0.86
29	8	3006	205	0.01906	1.2415E+05 +/- 1.063E+03	0.37	0.77	0.86
30	9	3006	207	0.03233	1.3263E+05 +/- 2.005E+03	1.32	0.73	1.51
31	10	3007	1	0.58805	2.1243E+05 +/- 1.078E+03	0.00	0.51	0.51
32	11	3007	2	0.46228	2.0024E+05 +/- 1.037E+03	0.00	0.52	0.52
33	12	3007	205	5.93202	1.2579E+03 +/- 4.098E+01	2.46	2.14	3.26
34	13	3007	207	5.92151	1.2676E+03 +/- 4.099E+01	2.44	2.12	3.23
35	14	5000	1	0.17009	4.7300E+05 +/- 2.146E+03	0.00	0.45	0.45
36	15	5000	2	0.25131	4.0053E+05 +/- 1.698E+03	0.00	0.42	0.42
37	16	5000	101	3.155-3	7.0484E+04 +/- 7.171E+02	0.00	1.02	1.02
38	17	5000	205	3.07342	6.4529E+02 +/- 8.508E+01	13.16	0.79	13.18
39	18	5000	207	3.263-3	7.1160E+04 +/- 1.011E+03	1.00	1.01	1.42
40	19	5010	1	0.0479	6.6672E+05 +/- 4.247E+03	0.00	0.64	0.64
41	20	5010	2	0.38275	3.0967E+05 +/- 1.306E+03	0.00	0.42	0.42
42	21	5010	101	3.154-3	3.5417E+05 +/- 3.603E+03	0.00	1.02	1.02
43	22	5010	107	3.045-3	3.5081E+05 +/- 5.115E+03	1.04	1.03	1.46
44	23	5010	205	3.07209	3.2414E+03 +/- 4.275E+02	13.17	0.79	13.19
45	24	5010	207	3.261-3	3.5753E+05 +/- 5.080E+03	1.00	1.01	1.42
46	25	5010	800	0.04751	3.4789E+04 +/- 3.040E+03	8.71	0.69	8.74
47	26	5010	801	2.683-3	3.1602E+05 +/- 4.069E+03	0.72	1.07	1.29
48	27	5011	1	0.22662	4.2488E+05 +/- 1.819E+03	0.00	0.43	0.43
49	28	5011	2	0.22346	4.2310E+05 +/- 1.816E+03	0.00	0.43	0.43
50	29	5011	205	12.3592	3.1049E-01 +/- 1.018E-01	17.05	28.00	32.78
51	30	5011	207	11.1401	1.3417E+01 +/- 2.799E+00	14.45	15.05	20.86
52	31	9019	16	13.4838	4.2323E-01 +/- 1.633E-01	3.41	38.43	38.59
53	32	11023	1	0.01221	8.1171E+05 +/- 1.201E+04	0.00	1.48	1.48
54	33	11023	2	7.395-3	7.7576E+05 +/- 1.198E+04	0.00	1.54	1.54
55	34	11023	16	14.9347	1.4345E-01 +/- 1.123E-01	1.46	78.29	78.31
56	35	11023	102	2.842-3	3.9795E+02 +/- 1.776E+01	3.58	2.67	4.46
57	36	12000	11024g	7.94659	6.8159E+01 +/- 3.258E+00	0.86	4.70	4.78
58	37	12024	103	7.94644	8.6280E+01 +/- 4.124E+00	0.86	4.70	4.78
59	38	13027	16	14.9465	9.5635E-02 +/- 8.968E-02	2.53	93.74	93.77
60	39	13027	103	5.72343	2.3088E+02 +/- 6.561E+00	2.07	1.95	2.84
61	40	13027	107	8.38888	4.0962E+01 +/- 2.181E+00	0.75	5.27	5.32
62	41	13027	11024g	8.38888	4.0962E+01 +/- 2.181E+00	0.75	5.27	5.32
63	42	13027	13026g	14.9465	9.3961E-02 +/- 8.801E-02	2.53	93.63	93.66
64	43	13027	13026m	14.9499	1.6742E-03 +/- 1.733E-03	27.20	99.89	103.53
65	44	14000	13028g	7.03942	3.0179E+02 +/- 1.250E+01	2.53	3.28	4.14
66	45	14028	103	7.03939	3.2723E+02 +/- 1.356E+01	2.53	3.28	4.14
67	46	14029	13028g	13.7846	1.2856E-01 +/- 6.684E-02	5.38	51.71	51.99

68	47	15031	103	3.58156	2.0904E+03	+/-	7.539E+01	3.47	0.98	3.61
69	48	16000	15032g	3.95282	3.7680E+03	+/-	1.031E+02	2.52	1.07	2.74
70	49	16032	103	3.95281	3.9667E+03	+/-	1.085E+02	2.52	1.07	2.74
71	50	21045	1	0.02009	9.2152E+05	+/-	1.108E+04	0.00	1.20	1.20
72	51	21045	2	0.0123	8.6731E+05	+/-	1.101E+04	0.00	1.27	1.27
73	52	21045	102	8.696-3	4.5417E+03	+/-	2.931E+02	6.30	1.38	6.45
74	53	22000	21046g	0	5.5168E+01	+/-	2.094E+00	3.19	2.05	3.79
75	54	22000	21047g	0	8.0513E+01	+/-	2.351E+00	2.76	0.95	2.92
76	55	22000	21048g	0	1.2999E+01	+/-	9.529E-01	5.61	4.72	7.33
77	56	22000	22045g	14.9474	1.2708E-02	+/-	1.211E-02	4.94	95.15	95.28
78	57	22046	16	14.9474	1.5404E-01	+/-	1.468E-01	4.94	95.15	95.28
79	58	22046	103	5.91675	6.6835E+02	+/-	2.537E+01	3.20	2.05	3.80
80	59	22047	103	3.56483	1.0815E+03	+/-	3.159E+01	2.76	0.95	2.92
81	60	22048	103	7.90648	1.7631E+01	+/-	1.292E+00	5.61	4.72	7.33
82	61	23051	107	9.73109	1.3694E+00	+/-	1.296E-01	3.25	8.89	9.46
83	62	23051	21048g	9.73109	1.3694E+00	+/-	1.296E-01	3.25	8.89	9.46
84	63	24000	24051g	14.9028	1.7469E+00	+/-	1.016E+00	2.02	58.13	58.17
85	64	25055	1	2.419-3	2.0157E+06	+/-	4.747E+04	0.00	2.35	2.35
86	65	25055	2	2.384-3	1.9192E+06	+/-	4.680E+04	0.00	2.44	2.44
87	66	25055	16	12.3712	1.3926E+01	+/-	3.813E+00	2.39	27.27	27.38
88	67	25055	102	3.571-4	1.4937E+04	+/-	9.919E+02	4.52	4.86	6.64
89	68	26000	24051g	0	2.8931E+00	+/-	1.499E-01	3.98	3.31	5.18
90	69	26000	25054g	0	2.6626E+02	+/-	8.928E+00	3.14	1.18	3.35
91	70	26000	25056g	0	5.8938E+01	+/-	2.655E+00	2.73	3.58	4.51
92	71	26000	26053g	14.9488	1.7760E-03	+/-	1.744E-03	10.80	97.63	98.22
93	72	26054	1	0.01241	9.5420E+05	+/-	1.355E+04	0.00	1.42	1.42
94	73	26054	2	0.01128	9.2131E+05	+/-	1.352E+04	0.00	1.47	1.47
95	74	26054	16	14.9488	3.0385E-02	+/-	2.985E-02	10.80	97.63	98.22
96	75	26054	103	4.3261	4.5553E+03	+/-	1.527E+02	3.14	1.18	3.35
97	76	26054	107	7.1327	4.9497E+01	+/-	2.565E+00	3.98	3.31	5.18
98	77	26056	103	7.27671	6.4233E+01	+/-	2.894E+00	2.73	3.58	4.51
99	78	26058	1	0.22454	8.3050E+05	+/-	5.802E+03	0.00	0.70	0.70
100	79	26058	2	0.12478	7.0025E+05	+/-	5.606E+03	0.00	0.80	0.80
101	80	26058	102	3.647-4	1.7209E+03	+/-	1.609E+02	7.01	6.19	9.35
102	81	27059	1	5.830-3	1.2444E+06	+/-	5.287E+04	0.00	4.25	4.25
103	82	27059	2	5.663-3	1.1708E+06	+/-	4.872E+04	0.00	4.16	4.16
104	83	27059	16	12.5273	1.1913E+01	+/-	3.488E+00	1.31	29.25	29.28
105	84	27059	102	1.339-4	2.7851E+04	+/-	4.233E+03	0.75	15.18	15.20
106	85	27059	103	5.74755	8.2490E+01	+/-	3.409E+00	3.62	1.99	4.13
107	86	27059	107	7.9348	9.1213E+00	+/-	5.573E-01	3.96	4.65	6.11
108	87	27059	25056g	7.9348	9.1213E+00	+/-	5.573E-01	3.96	4.65	6.11
109	88	28000	27058g	0	4.2871E+03	+/-	8.772E+01	1.74	1.08	2.05
110	89	28000	27060g	0	3.3475E+01	+/-	1.168E+00	1.94	2.90	3.49
111	90	28000	28057g	14.9143	1.2101E-01	+/-	7.684E-02	1.31	63.48	63.50
112	91	28058	16	14.9143	1.7776E-01	+/-	1.129E-01	1.31	63.48	63.50
113	92	28058	103	4.0431	6.2974E+03	+/-	1.289E+02	1.74	1.08	2.05
114	93	28060	103	6.83058	1.2764E+02	+/-	4.452E+00	1.94	2.90	3.49
115	94	29000	27060g	6.98864	2.1523E+01	+/-	9.404E-01	3.06	3.11	4.37
116	95	29000	29062g	13.4652	3.7720E+00	+/-	1.377E+00	1.64	36.47	36.51
117	96	29000	29064g	2.180-3	7.1102E+03	+/-	5.837E+02	5.73	5.88	8.21
118	97	29063	1	0.09432	7.5327E+05	+/-	6.744E+03	0.00	0.90	0.90
119	98	29063	2	0.07334	6.9292E+05	+/-	6.522E+03	0.00	0.94	0.94
120	99	29063	16	13.4652	5.4547E+00	+/-	1.991E+00	1.64	36.47	36.51
121	100	29063	102	2.171-3	1.0274E+04	+/-	8.494E+02	5.80	5.89	8.27
122	101	29063	107	6.98864	3.1126E+01	+/-	1.360E+00	3.06	3.11	4.37
123	102	29065	16	12.33	1.9364E+01	+/-	4.911E+00	2.02	25.28	25.36
124	103	30000	29064g	4.04708	1.1081E+03	+/-	2.283E+01	1.72	1.13	2.06
125	104	30000	29067g	4.15335	2.5640E+00	+/-	1.486E-01	5.62	1.43	5.79
126	105	30064	103	4.04708	2.2535E+03	+/-	4.642E+01	1.72	1.13	2.06
127	106	30067	103	4.14345	6.3274E+01	+/-	3.673E+00	5.63	1.40	5.80
128	107	30068	1	0.05753	9.5872E+05	+/-	3.328E+04	0.00	3.47	3.47
129	108	30068	2	0.03486	9.0928E+05	+/-	3.266E+04	0.00	3.59	3.59
130	109	30068	29067g	14.905	4.3846E-02	+/-	2.582E-02	16.76	56.44	58.88
131	110	33075	16	12.3713	1.8274E+01	+/-	5.167E+00	6.00	27.63	28.27
132	111	39089	16	13.482	9.5804E+00	+/-	3.630E+00	1.77	37.85	37.89
133	112	40000	40089g	13.7689	2.5914E+00	+/-	1.333E+00	0.91	51.44	51.45
134	113	40090	16	13.7689	5.0368E+00	+/-	2.591E+00	0.91	51.44	51.45
135	114	41093	1	0.30988	9.2338E+05	+/-	3.930E+03	0.00	0.43	0.43
136	115	41093	2	0.26095	8.1474E+05	+/-	3.584E+03	0.00	0.44	0.44

137	116	41093	102	3.679-3	2.5947E+04	+/-	7.598E+02	2.48	1.56	2.93
138	117	41093	41093m	2.38599	9.4262E+03	+/-	2.590E+02	2.67	0.65	2.75
139	118	41093	41092m	10.945	2.5869E+01	+/-	3.952E+00	0.85	15.25	15.28
140	119	41093	41094g	3.679-3	6.4799E+03	+/-	1.897E+02	2.48	1.56	2.93
141	120	41093	41094m	3.679-3	1.9467E+04	+/-	5.700E+02	2.48	1.56	2.93
142	121	42000	41092m	5.22043	5.6987E+01	+/-	2.371E+00	3.84	1.60	4.16
143	122	42092	41092m	5.22043	3.9220E+02	+/-	1.632E+01	3.84	1.60	4.16
144	123	45103	45103m	1.94239	5.0882E+04	+/-	2.056E+03	4.00	0.57	4.04
145	124	47109	1	0.28471	9.4354E+05	+/-	4.807E+03	0.00	0.51	0.51
146	125	47109	2	0.21416	7.0499E+05	+/-	3.308E+03	0.00	0.47	0.47
147	126	47109	47110n	8.516-3	4.8736E+03	+/-	3.389E+02	6.67	1.97	6.95
148	127	48000	1	0.34531	9.0144E+05	+/-	4.384E+03	0.00	0.49	0.49
149	128	48000	2	0.26551	7.6704E+05	+/-	3.863E+03	0.00	0.50	0.50
150	129	48000	101	5.636-3	3.3116E+04	+/-	5.124E+02	0.00	1.55	1.55
151	130	49000	49114m	6.327-3	3.2006E+03	+/-	1.283E+02	3.60	1.77	4.01
152	131	49113	1	0.32491	8.6009E+05	+/-	4.228E+03	0.00	0.49	0.49
153	132	49113	2	0.34056	7.0445E+05	+/-	3.013E+03	0.00	0.43	0.43
154	133	49113	102	4.555-3	1.0241E+05	+/-	1.929E+03	0.00	1.88	1.88
155	134	49113	49113m	2.51465	9.8573E+03	+/-	1.369E+02	1.20	0.71	1.39
156	135	49113	49114g	2.784-3	2.8935E+04	+/-	1.379E+03	4.25	2.16	4.77
157	136	49113	49114m	5.847-3	7.3471E+04	+/-	2.984E+03	3.65	1.78	4.06
158	137	49115	1	0.39003	8.1087E+05	+/-	3.392E+03	0.00	0.42	0.42
159	138	49115	2	0.37468	6.7921E+05	+/-	2.806E+03	0.00	0.41	0.41
160	139	49115	102	7.013-3	7.1357E+04	+/-	8.229E+02	0.00	1.15	1.15
161	140	49115	49115m	2.44107	1.2026E+04	+/-	2.192E+02	1.69	0.68	1.82
162	141	49115	49114m	12.1247	5.0933E+01	+/-	9.704E+00	5.39	18.27	19.05
163	142	49115	49116g	6.642-3	1.4777E+04	+/-	4.635E+02	2.91	1.17	3.14
164	143	49115	49116m	7.108-3	5.6579E+04	+/-	1.750E+03	2.87	1.15	3.09
165	144	53127	16	11.5585	6.6608E+01	+/-	1.144E+01	3.13	16.89	17.17
166	145	57139	1	0.48211	8.1090E+05	+/-	3.760E+03	0.00	0.46	0.46
167	146	57139	2	0.33528	7.1454E+05	+/-	3.425E+03	0.00	0.48	0.48
168	147	57139	102	3.623-3	4.6357E+03	+/-	6.133E+02	11.20	7.04	13.23
169	148	59141	16	12.1407	6.1233E+01	+/-	1.360E+01	11.70	18.87	22.20
170	149	64000	1	0.1511	1.2247E+06	+/-	6.582E+03	0.00	0.54	0.54
171	150	64000	2	0.09051	9.1082E+05	+/-	5.013E+03	0.00	0.55	0.55
172	151	64000	101	1.347-3	1.1556E+05	+/-	1.857E+03	0.00	1.61	1.61
173	152	69169	16	10.1343	2.2107E+02	+/-	2.502E+01	3.40	10.79	11.32
174	153	69169	17	14.95	5.3098E-04	+/-	5.488E-04	26.12	100.00	103.36
175	154	73181	1	0.15208	1.2436E+06	+/-	8.618E+03	0.00	0.69	0.69
176	155	73181	2	0.12275	8.9695E+05	+/-	5.370E+03	0.00	0.60	0.60
177	156	73181	102	9.287-4	1.3531E+05	+/-	7.257E+03	4.66	2.66	5.36
178	157	74186	1	0.0666	1.4349E+06	+/-	1.076E+05	0.00	7.50	7.50
179	158	74186	2	0.03414	1.2084E+06	+/-	9.330E+04	0.00	7.72	7.72
180	159	74186	102	4.235-4	4.7103E+04	+/-	1.433E+04	1.73	30.37	30.42
181	160	79197	1	0.09179	1.3011E+06	+/-	8.045E+03	0.00	0.62	0.62
182	161	79197	2	0.0693	1.0496E+06	+/-	5.990E+03	0.00	0.57	0.57
183	162	79197	16	10.4004	1.9373E+02	+/-	2.218E+01	1.98	11.28	11.45
184	163	79197	102	1.076-3	1.0413E+05	+/-	4.703E+03	3.73	2.55	4.52
185	164	80199	80199m	2.78532	1.7896E+04	+/-	6.647E+02	3.64	0.74	3.71
186	165	82204	82204m	4.92317	1.0243E+03	+/-	4.986E+01	4.64	1.48	4.87
187	166	83209	16	9.75686	3.5492E+02	+/-	3.511E+01	3.94	9.07	9.89
188	167	83209	17	14.95	7.7408E-03	+/-	9.009E-03	59.55	100.00	116.39
189	168	90232	1	0.18775	1.3430E+06	+/-	6.690E+03	0.00	0.50	0.50
190	169	90232	2	0.10823	1.0680E+06	+/-	5.405E+03	0.00	0.51	0.51
191	170	90232	18	2.72157	4.9537E+03	+/-	2.896E+02	5.79	0.79	5.85
192	171	90232	102	2.500-3	5.6612E+04	+/-	1.709E+03	1.92	2.33	3.02
193	172	92235	1	0.17714	1.3596E+06	+/-	6.149E+03	0.00	0.45	0.45
194	173	92235	18	0.04302	2.6090E+05	+/-	2.872E+03	0.88	0.67	1.10
195	174	92238	1	0.17985	1.3653E+06	+/-	8.880E+03	0.00	0.65	0.65
196	175	92238	2	0.09345	1.0813E+06	+/-	6.844E+03	0.00	0.63	0.63
197	176	92238	16	7.90746	8.8523E+02	+/-	6.205E+01	5.10	4.81	7.01
198	177	92238	18	2.5304	1.9542E+04	+/-	2.802E+02	1.22	0.75	1.43
199	178	92238	102	1.759-3	4.9532E+04	+/-	2.362E+03	1.02	4.66	4.77
200	179	93237	1	0.1592	1.3597E+06	+/-	6.328E+03	0.00	0.47	0.47
201	180	93237	2	0.11848	9.0250E+05	+/-	4.101E+03	0.00	0.45	0.45
202	181	93237	18	1.64976	1.0086E+05	+/-	1.877E+03	1.78	0.55	1.86
203	182	94239	1	0.17423	1.3789E+06	+/-	6.671E+03	0.00	0.48	0.48
204	183	94239	2	0.12616	8.8563E+05	+/-	4.009E+03	0.00	0.45	0.45
205	184	94239	18	0.32104	2.6929E+05	+/-	3.801E+03	1.22	0.71	1.41

206	185	95241	1	0.17671	1.3916E+06	+/-	6.323E+03	0.00	0.45	0.45
207	186	95241	2	0.15398	9.4580E+05	+/-	4.165E+03	0.00	0.44	0.44
208	187	95241	18	1.90472	9.6776E+04	+/-	2.650E+03	2.67	0.60	2.74
209										
210										