

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 :  
 ..\IRDFF-II.g725  
 8 Source spectrum file :  
 ..\IRDFF-II\_sp.g  
 9 Reaction rate integ.flag : 1  
 10 Reaction rate norm. flag : 1  
 11  
 12 Spectrum MAT No. : 9110  
 13 Spectrum Integral : 6.233E+03  
 14 Spectrum average energy [eV] : 1.483E+06  
 15 Spectrum peak energy [eV] : 7.048E+04  
 16 Reaction rate RR = spectrum integral  
 17

19	No.	Mat.	MT	E(50%) [MeV]	<RR> +/- [mb]	Unc	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
21	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	1	3000	1	0.94057	1.1621E+07 +/-	1.710E+03	0.00	0.01	0.01
23	2	3000	2	0.84087	1.0584E+07 +/-	1.588E+03	0.00	0.01	0.01
24	3	3000	205	0.42077	3.3348E+05 +/-	2.568E+03	0.77	0.02	0.77
25	4	3000	207	0.69062	3.7932E+05 +/-	9.439E+03	2.49	0.02	2.49
26	5	3006	1	0.41543	1.4535E+07 +/-	2.214E+03	0.00	0.02	0.02
27	6	3006	2	0.45362	1.0654E+07 +/-	1.618E+03	0.00	0.02	0.02
28	7	3006	105	0.27536	3.2524E+06 +/-	1.996E+04	0.61	0.02	0.61
29	8	3006	205	0.27536	3.2524E+06 +/-	1.996E+04	0.61	0.02	0.61
30	9	3006	207	0.32249	3.8541E+06 +/-	1.217E+05	3.16	0.02	3.16
31	10	3007	1	1.00562	1.1381E+07 +/-	1.685E+03	0.00	0.01	0.01
32	11	3007	2	0.88629	1.0579E+07 +/-	1.595E+03	0.00	0.02	0.02
33	12	3007	205	5.98966	9.3738E+04 +/-	2.243E+03	2.39	0.06	2.39
34	13	3007	207	5.98817	9.3918E+04 +/-	2.243E+03	2.39	0.06	2.39
35	14	5000	1	0.55656	1.8196E+07 +/-	2.282E+03	0.00	0.01	0.01
36	15	5000	2	0.56722	1.7136E+07 +/-	2.157E+03	0.00	0.01	0.01
37	16	5000	101	0.29586	9.2339E+05 +/-	1.394E+02	0.00	0.02	0.02
38	17	5000	205	3.29723	4.3600E+04 +/-	5.578E+03	12.79	0.02	12.79
39	18	5000	207	0.32334	9.6989E+05 +/-	4.004E+04	4.13	0.01	4.13
40	19	5010	1	0.52228	2.0090E+07 +/-	2.522E+03	0.00	0.01	0.01
41	20	5010	2	0.5848	1.5283E+07 +/-	1.932E+03	0.00	0.01	0.01
42	21	5010	101	0.29572	4.6388E+06 +/-	7.004E+02	0.00	0.02	0.02
43	22	5010	107	0.26981	4.4109E+06 +/-	2.039E+05	4.62	0.02	4.62
44	23	5010	205	3.29519	2.1896E+05 +/-	2.803E+04	12.80	0.02	12.80
45	24	5010	207	0.3226	4.8685E+06 +/-	2.012E+05	4.13	0.01	4.13
46	25	5010	800	1.35486	1.0870E+06 +/-	1.944E+05	17.89	0.01	17.89
47	26	5010	801	0.19445	3.3238E+06 +/-	9.248E+04	2.78	0.02	2.78
48	27	5011	1	0.56975	1.7725E+07 +/-	2.242E+03	0.00	0.01	0.01
49	28	5011	2	0.56199	1.7596E+07 +/-	2.232E+03	0.00	0.01	0.01
50	29	5011	205	12.7111	3.2965E+01 +/-	5.597E+00	16.97	0.61	16.98
51	30	5011	207	11.3568	1.3300E+03 +/-	1.931E+02	14.52	0.36	14.52
52	31	9019	16	13.8898	4.6886E+01 +/-	1.469E+00	3.00	0.91	3.13
53	32	11023	1	0.74155	2.1872E+07 +/-	3.098E+03	0.00	0.01	0.01
54	33	11023	2	0.6846	1.9544E+07 +/-	2.883E+03	0.00	0.01	0.01
55	34	11023	16	15.4536	2.2559E+01 +/-	4.718E-01	1.30	1.64	2.09
56	35	11023	102	0.24688	2.6084E+03 +/-	1.616E+02	6.19	0.05	6.19
57	36	12000	11024g	8.20768	5.8079E+03 +/-	4.784E+01	0.81	0.12	0.82
58	37	12024	103	8.20733	7.3512E+03 +/-	6.056E+01	0.81	0.12	0.82
59	38	13027	16	16.0347	1.9620E+01 +/-	8.143E-01	3.63	2.00	4.15
60	39	13027	103	5.80566	1.7194E+04 +/-	3.534E+02	2.05	0.05	2.06
61	40	13027	107	8.59142	3.5250E+03 +/-	2.584E+01	0.72	0.14	0.73
62	41	13027	11024g	8.59142	3.5250E+03 +/-	2.584E+01	0.72	0.14	0.73
63	42	13027	13026g	15.9028	1.7731E+01 +/-	7.642E-01	3.87	1.91	4.31
64	43	13027	13026m	17.4869	1.8893E+00 +/-	2.086E-01	10.46	3.54	11.04
65	44	14000	13028g	7.19035	2.3399E+04 +/-	5.821E+02	2.49	0.09	2.49
66	45	14028	103	7.19026	2.5371E+04 +/-	6.312E+02	2.49	0.09	2.49
67	46	14029	13028g	15.8111	2.3957E+01 +/-	1.141E+00	4.41	1.80	4.76

68	47	15031	103	3.67279	1.4439E+05	+/-	4.965E+03	3.44	0.03	3.44
69	48	16000	15032g	4.02701	2.6432E+05	+/-	6.593E+03	2.49	0.03	2.49
70	49	16032	103	4.02701	2.7826E+05	+/-	6.941E+03	2.49	0.03	2.49
71	50	21045	1	0.70995	2.3546E+07	+/-	3.566E+03	0.00	0.02	0.02
72	51	21045	2	0.53164	2.0238E+07	+/-	3.272E+03	0.00	0.02	0.02
73	52	21045	102	0.18706	6.0333E+04	+/-	4.302E+03	7.13	0.02	7.13
74	53	22000	21046g	0	4.1258E+03	+/-	1.273E+02	3.08	0.06	3.09
75	54	22000	21047g	0	5.5722E+03	+/-	1.522E+02	2.73	0.03	2.73
76	55	22000	21048g	0	1.0935E+03	+/-	5.903E+01	5.40	0.12	5.40
77	56	22000	22045g	16.0215	2.6547E+00	+/-	1.284E-01	4.41	1.99	4.84
78	57	22046	16	16.0215	3.2178E+01	+/-	1.557E+00	4.41	1.99	4.84
79	58	22046	103	6.04446	4.9961E+04	+/-	1.543E+03	3.09	0.06	3.09
80	59	22047	103	3.70197	7.4778E+04	+/-	2.046E+03	2.74	0.03	2.74
81	60	22048	103	8.25787	1.4828E+03	+/-	8.007E+01	5.40	0.12	5.40
82	61	23051	107	9.84764	1.2846E+02	+/-	4.001E+00	3.11	0.22	3.11
83	62	23051	21048g	9.84764	1.2846E+02	+/-	4.001E+00	3.11	0.22	3.11
84	63	24000	24051g	14.5844	2.2704E+02	+/-	6.578E+00	2.64	1.19	2.90
85	64	25055	1	0.70028	2.4700E+07	+/-	4.143E+03	0.00	0.02	0.02
86	65	25055	2	0.51988	1.9410E+07	+/-	3.741E+03	0.00	0.02	0.02
87	66	25055	16	12.8098	1.4309E+03	+/-	3.613E+01	2.45	0.62	2.53
88	67	25055	102	0.22956	3.0301E+04	+/-	5.580E+03	18.42	0.06	18.42
89	68	26000	24051g	0	2.3018E+02	+/-	8.464E+00	3.68	0.09	3.68
90	69	26000	25054g	0	1.8850E+04	+/-	5.821E+02	3.09	0.03	3.09
91	70	26000	25056g	0	4.7440E+03	+/-	1.252E+02	2.64	0.09	2.64
92	71	26000	26053g	16.493	5.3593E-01	+/-	2.916E-02	4.91	2.35	5.44
93	72	26054	1	0.65335	2.5348E+07	+/-	4.502E+03	0.00	0.02	0.02
94	73	26054	2	0.58056	2.3211E+07	+/-	4.347E+03	0.00	0.02	0.02
95	74	26054	16	16.493	9.1691E+00	+/-	4.988E-01	4.91	2.35	5.44
96	75	26054	103	4.38312	3.2250E+05	+/-	9.958E+03	3.09	0.03	3.09
97	76	26054	107	7.3634	3.9381E+03	+/-	1.448E+02	3.68	0.09	3.68
98	77	26056	103	7.50915	5.1700E+03	+/-	1.364E+02	2.64	0.09	2.64
99	78	26058	1	0.60819	3.5122E+07	+/-	4.943E+03	0.00	0.01	0.01
100	79	26058	2	0.40834	2.6780E+07	+/-	4.242E+03	0.00	0.02	0.02
101	80	26058	102	0.29601	2.0555E+04	+/-	2.150E+03	10.46	0.03	10.46
102	81	27059	1	0.64335	2.6593E+07	+/-	3.825E+03	0.00	0.01	0.01
103	82	27059	2	0.51217	2.3494E+07	+/-	3.568E+03	0.00	0.02	0.02
104	83	27059	16	12.9884	1.2246E+03	+/-	2.141E+01	1.62	0.66	1.75
105	84	27059	17	19.7844	7.0005E-03	+/-	3.481E-03	43.61	23.89	49.73
106	85	27059	102	0.34861	4.5624E+04	+/-	1.067E+03	2.34	0.08	2.34
107	86	27059	103	5.89477	6.1910E+03	+/-	2.168E+02	3.50	0.05	3.50
108	87	27059	107	8.28142	7.6917E+02	+/-	2.802E+01	3.64	0.12	3.64
109	88	27059	25056g	8.28142	7.6917E+02	+/-	2.802E+01	3.64	0.12	3.64
110	89	28000	27058g	0	3.0079E+05	+/-	5.214E+03	1.73	0.03	1.73
111	90	28000	27060g	0	2.6152E+03	+/-	4.817E+01	1.84	0.08	1.84
112	91	28000	28057g	14.8448	1.6049E+01	+/-	2.966E-01	1.30	1.31	1.85
113	92	28058	16	14.8448	2.3575E+01	+/-	4.357E-01	1.30	1.31	1.85
114	93	28058	103	4.12924	4.4184E+05	+/-	7.658E+03	1.73	0.03	1.73
115	94	28060	103	6.993	9.9713E+03	+/-	1.837E+01	1.84	0.08	1.84
116	95	29000	27060g	7.20399	1.7005E+03	+/-	5.108E+01	3.00	0.08	3.00
117	96	29000	29062g	13.7184	3.9856E+02	+/-	6.677E+00	1.44	0.86	1.68
118	97	29000	29064g	0.37336	6.6573E+04	+/-	6.393E+03	9.60	0.03	9.60
119	98	29063	1	0.63612	2.5957E+07	+/-	3.264E+03	0.00	0.01	0.01
120	99	29063	2	0.50494	2.2548E+07	+/-	2.941E+03	0.00	0.01	0.01
121	100	29063	16	13.7184	5.7637E+02	+/-	9.656E+00	1.44	0.86	1.68
122	101	29063	102	0.36699	9.5382E+04	+/-	9.245E+03	9.69	0.03	9.69
123	102	29063	107	7.20399	2.4591E+03	+/-	7.387E+01	3.00	0.08	3.00
124	103	29065	16	12.5735	1.9960E+03	+/-	4.037E+01	1.94	0.57	2.02
125	104	30000	29064g	4.11325	7.8381E+04	+/-	1.333E+03	1.70	0.03	1.70
126	105	30000	29067g	4.61146	1.6778E+02	+/-	8.946E+00	5.33	0.04	5.33
127	106	30064	103	4.11325	1.5941E+05	+/-	2.712E+03	1.70	0.03	1.70
128	107	30067	103	4.5893	4.1216E+03	+/-	2.214E+02	5.37	0.04	5.37
129	108	30068	1	0.60655	2.9075E+07	+/-	3.734E+03	0.00	0.01	0.01
130	109	30068	2	0.51315	2.6181E+07	+/-	3.488E+03	0.00	0.01	0.01
131	110	30068	29067g	15.2231	6.9023E+00	+/-	1.059E+00	15.27	1.53	15.34
132	111	33075	16	12.8098	1.8762E+03	+/-	1.138E+02	6.03	0.62	6.06
133	112	39089	16	13.7844	9.9976E+02	+/-	1.570E+01	1.29	0.89	1.57
134	113	40000	40089g	14.2952	3.1569E+02	+/-	4.491E+00	0.92	1.08	1.42
135	114	40090	16	14.2952	6.1358E+02	+/-	8.728E+00	0.92	1.08	1.42
136	115	41093	1	0.62719	4.1609E+07	+/-	5.130E+03	0.00	0.01	0.01

137	116	41093	2	0.51743	3.5922E+07	+/-	4.646E+03	0.00	0.01	0.01
138	117	41093	102	0.27813	2.7305E+05	+/-	4.046E+03	1.48	0.02	1.48
139	118	41093	41093m	2.46995	6.1933E+05	+/-	1.621E+04	2.62	0.02	2.62
140	119	41093	41092m	11.2568	2.5360E+03	+/-	2.348E+01	0.85	0.36	0.93
141	120	41093	41094g	0.27813	6.8190E+04	+/-	1.010E+03	1.48	0.02	1.48
142	121	41093	41094m	0.27813	2.0486E+05	+/-	3.035E+03	1.48	0.02	1.48
143	122	42000	41092m	5.3465	4.1629E+03	+/-	1.530E+02	3.67	0.04	3.68
144	123	42092	41092m	5.34649	2.8651E+04	+/-	1.053E+03	3.67	0.04	3.68
145	124	45103	45103m	2.01925	3.3109E+06	+/-	1.320E+05	3.99	0.02	3.99
146	125	47109	1	0.70487	4.0009E+07	+/-	4.886E+03	0.00	0.01	0.01
147	126	47109	2	0.50605	2.9065E+07	+/-	3.702E+03	0.00	0.01	0.01
148	127	47109	47110n	0.33072	9.4648E+04	+/-	6.557E+03	6.93	0.01	6.93
149	128	48000	1	0.74699	3.9919E+07	+/-	4.880E+03	0.00	0.01	0.01
150	129	48000	2	0.59214	3.2785E+07	+/-	4.115E+03	0.00	0.01	0.01
151	130	48000	101	0.39236	5.5982E+05	+/-	7.865E+01	0.00	0.01	0.01
152	131	49000	49114m	0.67906	6.3715E+04	+/-	1.615E+03	2.53	0.03	2.53
153	132	49113	1	0.82331	3.6344E+07	+/-	4.445E+03	0.00	0.01	0.01
154	133	49113	2	0.71325	3.0954E+07	+/-	3.863E+03	0.00	0.01	0.01
155	134	49113	102	0.56599	1.7302E+06	+/-	2.381E+02	0.00	0.01	0.01
156	135	49113	49113m	2.59287	6.4875E+05	+/-	7.717E+03	1.19	0.02	1.19
157	136	49113	49114g	0.48545	3.5988E+05	+/-	9.601E+03	2.67	0.01	2.67
158	137	49113	49114m	0.58698	1.3703E+06	+/-	3.717E+04	2.71	0.01	2.71
159	138	49115	1	0.82495	3.6304E+07	+/-	4.440E+03	0.00	0.01	0.01
160	139	49115	2	0.70717	3.1018E+07	+/-	3.869E+03	0.00	0.01	0.01
161	140	49115	102	0.50236	1.2856E+06	+/-	1.777E+02	0.00	0.01	0.01
162	141	49115	49115m	2.51602	7.9026E+05	+/-	1.323E+04	1.67	0.02	1.67
163	142	49115	49114m	11.7203	5.1475E+03	+/-	2.662E+02	5.16	0.42	5.17
164	143	49115	49116g	0.46077	2.5686E+05	+/-	5.509E+03	2.14	0.01	2.14
165	144	49115	49116m	0.51361	1.0288E+06	+/-	2.218E+04	2.16	0.01	2.16
166	145	53127	16	11.5025	6.6892E+03	+/-	2.099E+02	3.11	0.39	3.14
167	146	57139	1	0.97928	3.6713E+07	+/-	4.541E+03	0.00	0.01	0.01
168	147	57139	2	0.80941	3.0681E+07	+/-	3.781E+03	0.00	0.01	0.01
169	148	57139	102	0.49551	5.4082E+04	+/-	2.771E+03	5.12	0.02	5.12
170	149	59141	16	11.7594	6.2606E+03	+/-	7.185E+02	11.47	0.43	11.48
171	150	64000	1	0.82556	4.4397E+07	+/-	5.407E+03	0.00	0.01	0.01
172	151	64000	2	0.60579	3.0731E+07	+/-	3.804E+03	0.00	0.01	0.01
173	152	64000	101	0.28423	9.5709E+05	+/-	1.606E+02	0.00	0.02	0.02
174	153	69169	16	10.3134	2.0677E+04	+/-	6.807E+02	3.28	0.26	3.29
175	154	69169	17	17.9965	3.0255E+01	+/-	2.395E+00	6.56	4.43	7.92
176	155	73181	1	0.87637	4.5423E+07	+/-	5.537E+03	0.00	0.01	0.01
177	156	73181	2	0.71934	3.2024E+07	+/-	3.913E+03	0.00	0.01	0.01
178	157	73181	102	0.28214	8.6139E+05	+/-	4.616E+04	5.36	0.02	5.36
179	158	74186	1	0.82191	4.6081E+07	+/-	5.630E+03	0.00	0.01	0.01
180	159	74186	2	0.57089	3.4207E+07	+/-	4.266E+03	0.00	0.01	0.01
181	160	74186	102	0.43836	2.8732E+05	+/-	6.291E+03	2.19	0.02	2.19
182	161	79197	1	0.81014	4.4112E+07	+/-	5.399E+03	0.00	0.01	0.01
183	162	79197	2	0.58637	3.3775E+07	+/-	4.191E+03	0.00	0.01	0.01
184	163	79197	16	10.4682	1.8156E+04	+/-	3.502E+02	1.91	0.27	1.93
185	164	79197	102	0.28279	7.8910E+05	+/-	3.592E+03	0.45	0.02	0.46
186	165	80199	80199m	2.91797	1.1957E+06	+/-	4.309E+04	3.60	0.02	3.60
187	166	82204	82204m	4.99632	7.4763E+04	+/-	3.431E+03	4.59	0.04	4.59
188	167	83209	16	9.80134	3.3631E+04	+/-	1.370E+03	4.07	0.21	4.07
189	168	83209	17	17.7283	4.0217E+01	+/-	2.877E+00	5.99	3.92	7.15
190	169	90232	1	0.72621	5.2557E+07	+/-	6.392E+03	0.00	0.01	0.01
191	170	90232	2	0.493	3.7766E+07	+/-	4.756E+03	0.00	0.01	0.01
192	171	90232	18	2.85704	3.3154E+05	+/-	1.918E+04	5.79	0.02	5.79
193	172	90232	102	0.48454	7.9854E+05	+/-	1.215E+04	1.52	0.02	1.52
194	173	92235	1	0.73791	5.2284E+07	+/-	6.358E+03	0.00	0.01	0.01
195	174	92235	18	0.90817	7.8889E+06	+/-	9.491E+04	1.20	0.01	1.20
196	175	92238	1	0.74764	5.2498E+07	+/-	6.380E+03	0.00	0.01	0.01
197	176	92238	2	0.51603	3.6995E+07	+/-	4.634E+03	0.00	0.01	0.01
198	177	92238	16	8.16142	7.4042E+04	+/-	3.774E+03	5.10	0.12	5.10
199	178	92238	18	2.6292	1.2955E+06	+/-	1.586E+04	1.22	0.02	1.22
200	179	92238	102	0.46762	6.0546E+05	+/-	1.074E+04	1.77	0.01	1.77
201	180	93237	1	0.73998	5.1163E+07	+/-	6.221E+03	0.00	0.01	0.01
202	181	93237	2	0.51651	3.2749E+07	+/-	4.096E+03	0.00	0.01	0.01
203	182	93237	18	1.71427	6.4616E+06	+/-	1.122E+05	1.74	0.02	1.74
204	183	94239	1	0.73093	5.2712E+07	+/-	6.407E+03	0.00	0.01	0.01
205	184	94239	2	0.53293	3.2523E+07	+/-	4.052E+03	0.00	0.01	0.01

206	185	94239	18	1.09321	1.0762E+07	+/-	1.339E+05	1.24	0.01	1.24
207	186	95241	1	0.70397	5.3520E+07	+/-	6.506E+03	0.00	0.01	0.01
208	187	95241	2	0.51766	3.6634E+07	+/-	4.579E+03	0.00	0.01	0.01
209	188	95241	18	1.98187	6.2095E+06	+/-	1.683E+05	2.71	0.02	2.71
210										
211										