

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. : 9904  
 13 Spectrum Integral : 1.751E+01  
 14 Spectrum average energy [eV] : 1.143E+06  
 15 Spectrum peak energy [eV] : 5.123E-01  
 16 Reaction rate RR = spectrum integral  
 17

	No.	Mat.	MT	E(50%) [MeV]	<RR> +/- [mb]	Unc	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
18									
19									
20									
21									
22	1	3000	1	8.765-6	5.4350E+04	+/- 0.000E+00	0.00	0.00	0.00
23	2	3000	2	0.01903	2.1086E+04	+/- 0.000E+00	0.00	0.00	0.00
24	3	3000	205	2.071-6	3.2598E+04	+/- 1.615E+02	0.50	0.00	0.50
25	4	3000	207	2.085-6	3.2740E+04	+/- 1.627E+02	0.50	0.00	0.50
26	5	3006	1	2.189-6	4.4315E+05	+/- 0.000E+00	0.00	0.00	0.00
27	6	3006	2	0.13088	1.7903E+04	+/- 0.000E+00	0.00	0.00	0.00
28	7	3006	105	2.017-6	4.2390E+05	+/- 2.120E+03	0.50	0.00	0.50
29	8	3006	205	2.017-6	4.2390E+05	+/- 2.120E+03	0.50	0.00	0.50
30	9	3006	207	2.028-6	4.2511E+05	+/- 2.133E+03	0.50	0.00	0.50
31	10	3007	1	0.02778	2.2416E+04	+/- 0.000E+00	0.00	0.00	0.00
32	11	3007	2	0.01703	2.1347E+04	+/- 0.000E+00	0.00	0.00	0.00
33	12	3007	205	9.27902	4.5848E+02	+/- 1.521E+01	3.32	0.00	3.32
34	13	3007	207	8.95342	5.1384E+02	+/- 1.767E+01	3.44	0.00	3.44
35	14	5000	1	2.754-6	4.1004E+05	+/- 0.000E+00	0.00	0.00	0.00
36	15	5000	2	1.013-3	6.5407E+04	+/- 0.000E+00	0.00	0.00	0.00
37	16	5000	101	1.994-6	3.4380E+05	+/- 0.000E+00	0.00	0.00	0.00
38	17	5000	205	6.33471	6.8340E+01	+/- 5.483E+00	8.02	0.00	8.02
39	18	5000	207	1.997-6	3.4400E+05	+/- 2.629E+03	0.76	0.00	0.76
40	19	5010	1	2.072-6	1.7668E+06	+/- 0.000E+00	0.00	0.00	0.00
41	20	5010	2	4.310-3	3.7759E+04	+/- 0.000E+00	0.00	0.00	0.00
42	21	5010	101	1.994-6	1.7275E+06	+/- 0.000E+00	0.00	0.00	0.00
43	22	5010	107	1.993-6	1.7269E+06	+/- 1.321E+04	0.76	0.00	0.76
44	23	5010	205	5.76193	3.0450E+02	+/- 2.656E+01	8.72	0.00	8.72
45	24	5010	207	1.996-6	1.7279E+06	+/- 1.321E+04	0.76	0.00	0.76
46	25	5010	800	2.013-6	1.0929E+05	+/- 9.112E+02	0.83	0.00	0.83
47	26	5010	801	1.992-6	1.6177E+06	+/- 1.318E+04	0.81	0.00	0.81
48	27	5011	1	9.329-4	7.2981E+04	+/- 0.000E+00	0.00	0.00	0.00
49	28	5011	2	8.686-4	7.2274E+04	+/- 0.000E+00	0.00	0.00	0.00
50	29	5011	205	16.0243	9.6680E+00	+/- 1.824E+00	18.86	0.00	18.86
51	30	5011	207	15.2893	1.8080E+02	+/- 3.999E+01	22.12	0.00	22.12
52	31	9019	16	16.923	2.6818E+01	+/- 7.311E-01	2.73	0.00	2.73
53	32	11023	1	2.893-3	1.3226E+05	+/- 0.000E+00	0.00	0.00	0.00
54	33	11023	2	2.883-3	1.2935E+05	+/- 0.000E+00	0.00	0.00	0.00
55	34	11023	16	17.5872	2.7328E+01	+/- 4.219E-01	1.54	0.00	1.54
56	35	11023	102	4.167-6	3.1569E+02	+/- 1.414E+01	4.48	0.00	4.48
57	36	12000	11024g	12.308	1.1648E+02	+/- 9.269E-01	0.80	0.00	0.80
58	37	12024	103	12.2262	1.4517E+02	+/- 8.250E-01	0.57	0.00	0.57
59	38	13027	16	17.9476	3.1475E+01	+/- 1.442E+00	4.58	0.00	4.58
60	39	13027	103	10.0932	9.7808E+01	+/- 1.650E+00	1.69	0.00	1.69
61	40	13027	107	12.4588	8.6199E+01	+/- 4.110E-01	0.48	0.00	0.48
62	41	13027	11024g	12.4588	8.6199E+01	+/- 4.110E-01	0.48	0.00	0.48
63	42	13027	13026g	17.7056	2.5482E+01	+/- 1.274E+00	5.00	0.00	5.00
64	43	13027	13026m	18.7128	5.9929E+00	+/- 6.749E-01	11.26	0.00	11.26
65	44	14000	13028g	10.9876	2.4062E+02	+/- 4.600E+00	1.91	0.00	1.91
66	45	14028	103	10.946	2.5900E+02	+/- 4.987E+00	1.93	0.00	1.93
67	46	14029	13028g	18.2227	3.7437E+01	+/- 2.173E+00	5.81	0.00	5.81

68	47	15031	103	6.77242	2.4157E+02	+/-	7.888E+00	3.27	0.00	3.27
69	48	16000	15032g	7.43632	5.2271E+02	+/-	9.268E+00	1.77	0.00	1.77
70	49	16032	103	7.42873	5.4958E+02	+/-	9.753E+00	1.77	0.00	1.77
71	50	21045	1	1.416-4	2.5026E+05	+/-	0.000E+00	0.00	0.00	0.00
72	51	21045	2	1.915-4	2.3481E+05	+/-	0.000E+00	0.00	0.00	0.00
73	52	21045	102	1.907-6	1.1886E+04	+/-	9.035E+02	7.60	0.00	7.60
74	53	22000	21046g	0	2.8801E+01	+/-	5.549E-01	1.93	0.00	1.93
75	54	22000	21047g	15.8303	2.7346E+01	+/-	1.394E+00	5.10	0.00	5.10
76	55	22000	21048g	13.4422	3.1046E+01	+/-	1.005E+00	3.24	0.00	3.24
77	56	22000	22045g	17.83	4.1091E+00	+/-	1.903E-01	4.63	0.00	4.63
78	57	22046	16	17.83	4.9807E+01	+/-	2.306E+00	4.63	0.00	4.63
79	58	22046	103	10.2367	3.0269E+02	+/-	6.275E+00	2.07	0.00	2.07
80	59	22047	103	9.1419	1.8165E+02	+/-	4.449E+00	2.45	0.00	2.45
81	60	22048	103	13.3528	4.1287E+01	+/-	1.362E+00	3.30	0.00	3.30
82	61	23051	107	15.2418	1.0241E+01	+/-	1.638E-01	1.60	0.00	1.60
83	62	23051	21048g	15.2418	1.0241E+01	+/-	1.638E-01	1.60	0.00	1.60
84	63	24000	24051g	16.9946	1.7160E+02	+/-	5.119E+00	2.98	0.00	2.98
85	64	25055	1	3.651-4	6.4060E+05	+/-	0.000E+00	0.00	0.00	0.00
86	65	25055	2	3.665-4	6.2199E+05	+/-	0.000E+00	0.00	0.00	0.00
87	66	25055	16	15.8865	4.0254E+02	+/-	5.404E+00	1.34	0.00	1.34
88	67	25055	102	3.023-4	1.3534E+04	+/-	5.099E+02	3.77	0.00	3.77
89	68	26000	24051g	0	3.9604E+00	+/-	7.551E-02	1.91	0.00	1.91
90	69	26000	25054g	0	4.2650E+01	+/-	1.017E+00	2.38	0.00	2.38
91	70	26000	25056g	0	7.7596E+01	+/-	1.107E+00	1.43	0.00	1.43
92	71	26000	26053g	18.0365	1.0176E+00	+/-	4.232E-02	4.16	0.00	4.16
93	72	26054	1	8.199-3	1.2583E+05	+/-	0.000E+00	0.00	0.00	0.00
94	73	26054	2	8.164-3	1.2146E+05	+/-	0.000E+00	0.00	0.00	0.00
95	74	26054	16	18.0365	1.7410E+01	+/-	7.241E-01	4.16	0.00	4.16
96	75	26054	103	7.5981	7.2800E+02	+/-	1.545E+01	2.12	0.00	2.12
97	76	26054	107	13.0502	6.7757E+01	+/-	1.292E+00	1.91	0.00	1.91
98	77	26056	103	12.3708	8.4142E+01	+/-	1.206E+00	1.43	0.00	1.43
99	78	26058	1	2.875-3	1.2394E+05	+/-	0.000E+00	0.00	0.00	0.00
100	79	26058	2	1.630-3	1.1602E+05	+/-	0.000E+00	0.00	0.00	0.00
101	80	26058	102	2.303-4	1.2845E+03	+/-	6.311E+01	4.91	0.00	4.91
102	81	27059	1	1.323-4	8.7703E+05	+/-	0.000E+00	0.00	0.00	0.00
103	82	27059	2	1.325-4	7.9748E+05	+/-	0.000E+00	0.00	0.00	0.00
104	83	27059	16	15.9808	3.7962E+02	+/-	3.627E+00	0.96	0.00	0.96
105	84	27059	17	19.8446	8.7479E-02	+/-	3.821E-02	43.68	0.00	43.68
106	85	27059	102	1.294-4	7.5864E+04	+/-	5.822E+02	0.77	0.00	0.77
107	86	27059	103	11.5445	4.8379E+01	+/-	1.047E+00	2.16	0.00	2.16
108	87	27059	107	13.226	2.0208E+01	+/-	4.229E-01	2.09	0.00	2.09
109	88	27059	25056g	13.226	2.0208E+01	+/-	4.229E-01	2.09	0.00	2.09
110	89	28000	27058g	0	6.1019E+02	+/-	9.143E+00	1.50	0.00	1.50
111	90	28000	27060g	0	3.1159E+01	+/-	3.911E-01	1.26	0.00	1.26
112	91	28000	28057g	17.2024	1.4082E+01	+/-	2.216E-01	1.57	0.00	1.57
113	92	28058	16	17.2024	2.0685E+01	+/-	3.255E-01	1.57	0.00	1.57
114	93	28058	103	7.3237	8.9632E+02	+/-	1.343E+01	1.50	0.00	1.50
115	94	28060	103	11.6806	1.1717E+02	+/-	1.317E+00	1.12	0.00	1.12
116	95	29000	27060g	12.0609	2.3521E+01	+/-	4.598E-01	1.95	0.00	1.95
117	96	29000	29062g	16.6025	1.9387E+02	+/-	2.852E+00	1.47	0.00	1.47
118	97	29000	29064g	5.831-4	3.5882E+03	+/-	1.407E+02	3.92	0.00	3.92
119	98	29063	1	2.226-3	1.2295E+05	+/-	0.000E+00	0.00	0.00	0.00
120	99	29063	2	2.194-3	1.1403E+05	+/-	0.000E+00	0.00	0.00	0.00
121	100	29063	16	16.6025	2.8036E+02	+/-	4.125E+00	1.47	0.00	1.47
122	101	29063	102	5.817-4	4.9646E+03	+/-	2.086E+02	4.20	0.00	4.20
123	102	29063	107	12.0609	3.4014E+01	+/-	6.649E-01	1.95	0.00	1.95
124	103	29065	16	15.8066	5.0282E+02	+/-	9.599E+00	1.91	0.00	1.91
125	104	30000	29064g	7.85719	1.7375E+02	+/-	2.194E+00	1.26	0.00	1.26
126	105	30000	29067g	16.7233	3.0292E+00	+/-	3.152E-01	10.41	0.00	10.41
127	106	30064	103	7.85477	3.5322E+02	+/-	4.408E+00	1.25	0.00	1.25
128	107	30067	103	12.5158	3.4088E+01	+/-	1.189E+00	3.49	0.00	3.49
129	108	30068	1	5.191-4	2.2610E+05	+/-	0.000E+00	0.00	0.00	0.00
130	109	30068	2	5.188-4	2.1919E+05	+/-	0.000E+00	0.00	0.00	0.00
131	110	30068	29067g	18.096	8.9540E+00	+/-	1.688E+00	18.85	0.00	18.85
132	111	33075	16	15.8827	5.2960E+02	+/-	1.850E+01	3.49	0.00	3.49
133	112	39089	16	16.4604	4.8252E+02	+/-	5.608E+00	1.16	0.00	1.16
134	113	40000	40089g	16.8445	2.0594E+02	+/-	2.267E+00	1.10	0.00	1.10
135	114	40090	16	16.8443	4.0024E+02	+/-	4.406E+00	1.10	0.00	1.10
136	115	41093	1	2.586-3	1.2899E+05	+/-	0.000E+00	0.00	0.00	0.00

137	116	41093	2	2.553-3	1.1474E+05	+/-	0.000E+00	0.00	0.00	0.00
138	117	41093	102	7.296-4	8.7691E+03	+/-	2.955E+02	3.37	0.00	3.37
139	118	41093	41093m	3.86212	5.4617E+02	+/-	1.417E+01	2.59	0.00	2.59
140	119	41093	41092m	14.4763	2.7320E+02	+/-	1.567E+00	0.57	0.00	0.57
141	120	41093	41094g	7.296-4	2.1900E+03	+/-	7.379E+01	3.37	0.00	3.37
142	121	41093	41094m	7.296-4	6.5792E+03	+/-	2.217E+02	3.37	0.00	3.37
143	122	42000	41092m	9.3721	1.7057E+01	+/-	3.097E-01	1.82	0.00	1.82
144	123	42092	41092m	9.36495	1.1723E+02	+/-	2.037E+00	1.74	0.00	1.74
145	124	45103	45103m	3.70545	2.9558E+03	+/-	1.134E+02	3.84	0.00	3.84
146	125	47109	1	5.185-6	1.7226E+06	+/-	0.000E+00	0.00	0.00	0.00
147	126	47109	2	5.669-6	2.4037E+05	+/-	0.000E+00	0.00	0.00	0.00
148	127	47109	47110n	5.165-6	6.8584E+04	+/-	4.766E+03	6.95	0.00	6.95
149	128	48000	1	1.549-4	1.9397E+05	+/-	0.000E+00	0.00	0.00	0.00
150	129	48000	2	1.016-3	1.2294E+05	+/-	0.000E+00	0.00	0.00	0.00
151	130	48000	101	7.911-7	6.4808E+04	+/-	0.000E+00	0.00	0.00	0.00
152	131	49000	49114m	1.435-5	1.0404E+04	+/-	8.403E+02	8.08	0.00	8.08
153	132	49113	1	1.470-5	4.4960E+05	+/-	0.000E+00	0.00	0.00	0.00
154	133	49113	2	1.058-3	1.1161E+05	+/-	0.000E+00	0.00	0.00	0.00
155	134	49113	102	4.817-6	3.3351E+05	+/-	0.000E+00	0.00	0.00	0.00
156	135	49113	49113m	4.09794	5.9713E+02	+/-	7.077E+00	1.19	0.00	1.19
157	136	49113	49114g	4.778-6	1.0809E+05	+/-	9.428E+03	8.72	0.00	8.72
158	137	49113	49114m	4.835-6	2.2542E+05	+/-	1.958E+04	8.69	0.00	8.69
159	138	49115	1	1.456-6	3.4463E+06	+/-	0.000E+00	0.00	0.00	0.00
160	139	49115	2	1.579-6	2.1911E+05	+/-	0.000E+00	0.00	0.00	0.00
161	140	49115	102	1.453-6	3.2225E+06	+/-	0.000E+00	0.00	0.00	0.00
162	141	49115	49115m	4.06336	7.2167E+02	+/-	1.157E+01	1.60	0.00	1.60
163	142	49115	49114m	15.0595	7.6667E+02	+/-	1.900E+01	2.48	0.00	2.48
164	143	49115	49116g	1.453-6	6.7672E+05	+/-	2.098E+04	3.10	0.00	3.10
165	144	49115	49116m	1.453-6	2.5458E+06	+/-	7.891E+04	3.10	0.00	3.10
166	145	53127	16	14.9291	8.7997E+02	+/-	1.990E+01	2.26	0.00	2.26
167	146	57139	1	1.743-4	1.5374E+05	+/-	0.000E+00	0.00	0.00	0.00
168	147	57139	2	2.665-4	1.3584E+05	+/-	0.000E+00	0.00	0.00	0.00
169	148	57139	102	7.257-5	1.1997E+04	+/-	6.633E+02	5.53	0.00	5.53
170	149	59141	16	15.1836	9.7325E+02	+/-	5.082E+01	5.22	0.00	5.22
171	150	64000	1	2.098-5	6.0224E+05	+/-	0.000E+00	0.00	0.00	0.00
172	151	64000	2	7.123-4	1.9808E+05	+/-	0.000E+00	0.00	0.00	0.00
173	152	64000	101	3.338-6	3.9314E+05	+/-	0.000E+00	0.00	0.00	0.00
174	153	69169	16	13.7622	1.3009E+03	+/-	2.459E+01	1.89	0.00	1.89
175	154	69169	17	18.8515	1.1838E+02	+/-	7.269E+00	6.14	0.00	6.14
176	155	73181	1	1.028-5	9.2773E+05	+/-	0.000E+00	0.00	0.00	0.00
177	156	73181	2	1.395-4	2.5464E+05	+/-	0.000E+00	0.00	0.00	0.00
178	157	73181	102	4.452-6	6.5958E+05	+/-	2.496E+04	3.78	0.00	3.78
179	158	74186	1	1.869-5	3.6796E+06	+/-	0.000E+00	0.00	0.00	0.00
180	159	74186	2	1.870-5	3.1826E+06	+/-	0.000E+00	0.00	0.00	0.00
181	160	74186	102	1.862-5	4.8681E+05	+/-	2.190E+04	4.50	0.00	4.50
182	161	79197	1	4.911-6	1.9633E+06	+/-	0.000E+00	0.00	0.00	0.00
183	162	79197	2	1.285-5	4.0770E+05	+/-	0.000E+00	0.00	0.00	0.00
184	163	79197	16	14.0593	1.3085E+03	+/-	1.391E+01	1.06	0.00	1.06
185	164	79197	102	4.883-6	1.5465E+06	+/-	3.206E+04	2.07	0.00	2.07
186	165	80199	80199m	5.04531	1.3062E+03	+/-	4.319E+01	3.31	0.00	3.31
187	166	82204	82204m	8.37851	2.3348E+02	+/-	8.590E+00	3.68	0.00	3.68
188	167	83209	16	13.2565	1.5399E+03	+/-	3.970E+01	2.58	0.00	2.58
189	168	83209	17	18.7681	1.4030E+02	+/-	7.724E+00	5.51	0.00	5.51
190	169	90232	1	1.738-4	3.4277E+05	+/-	0.000E+00	0.00	0.00	0.00
191	170	90232	2	3.369-4	2.4587E+05	+/-	0.000E+00	0.00	0.00	0.00
192	171	90232	18	8.66162	6.5027E+02	+/-	3.767E+01	5.79	0.00	5.79
193	172	90232	102	2.398-5	8.4215E+04	+/-	1.611E+03	1.91	0.00	1.91
194	173	92235	1	2.449-5	6.0036E+05	+/-	0.000E+00	0.00	0.00	0.00
195	174	92235	18	1.573-5	2.8013E+05	+/-	7.873E+02	0.28	0.00	0.28
196	175	92238	1	3.690-5	6.3584E+05	+/-	0.000E+00	0.00	0.00	0.00
197	176	92238	2	1.034-4	3.4577E+05	+/-	0.000E+00	0.00	0.00	0.00
198	177	92238	16	10.6562	1.0351E+03	+/-	5.300E+01	5.12	0.00	5.12
199	178	92238	18	7.99476	2.0700E+03	+/-	2.541E+01	1.23	0.00	1.23
200	179	92238	102	2.011-5	2.7467E+05	+/-	3.129E+03	1.14	0.00	1.14
201	180	93237	1	7.621-6	8.7804E+05	+/-	0.000E+00	0.00	0.00	0.00
202	181	93237	2	3.850-4	1.9906E+05	+/-	0.000E+00	0.00	0.00	0.00
203	182	93237	18	3.31842	6.9249E+03	+/-	1.877E+02	2.71	0.00	2.71
204	183	94239	1	2.251-5	6.7421E+05	+/-	0.000E+00	0.00	0.00	0.00
205	184	94239	2	6.753-4	1.7727E+05	+/-	0.000E+00	0.00	0.00	0.00

206	185	94239	18	1.165-5	3.0867E+05	+/-	7.062E+03	2.29	0.00	2.29
207	186	95241	1	1.320-6	1.5054E+06	+/-	0.000E+00	0.00	0.00	0.00
208	187	95241	2	7.213-4	1.8089E+05	+/-	0.000E+00	0.00	0.00	0.00
209	188	95241	18	9.159-5	1.3863E+04	+/-	2.444E+02	1.76	0.00	1.76
210										
211										