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 1  RR_UNC - Calculate uncertainties in reaction rates
 2  ----------------------------------------------------------
 3  Andrej Trkov, Jozef Stefan Institute, Ljubljana, Slovenia
 4                    Version Jul. 2019
 5  ----------------------------------------------------------
 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.         :   9202
13  Spectrum Integral            :  1.009E+02
14  Spectrum average energy [eV] :  1.957E+06
15  Spectrum peak energy    [eV] :  3.298E-02
16  Reaction rate RR = spectrum integral
17
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No.	Mat.	MT	E(50%) [MeV]	<RR> +/- Unc [mb]	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
1	3000	1	5.888-8	1.0774E+06 +/- 4.684E+02	0.00	0.04	0.04
2	3000	2	0.15557	1.2447E+05 +/- 2.322E+01	0.00	0.02	0.02
3	3000	205	5.033-8	9.4660E+05 +/- 4.800E+03	0.50	0.05	0.51
4	3000	207	5.039-8	9.4868E+05 +/- 4.803E+03	0.50	0.05	0.51
5	3006	1	5.060-8	1.2537E+07 +/- 6.066E+03	0.00	0.05	0.05
6	3006	2	0.23056	1.0714E+05 +/- 2.229E+01	0.00	0.02	0.02
7	3006	105	5.002-8	1.2415E+07 +/- 6.323E+04	0.51	0.05	0.51
8	3006	205	5.002-8	1.2415E+07 +/- 6.323E+04	0.51	0.05	0.51
9	3006	207	5.008-8	1.2426E+07 +/- 6.326E+04	0.51	0.05	0.51
10	3007	1	0.23819	1.3619E+05 +/- 2.461E+01	0.00	0.02	0.02
11	3007	2	0.13769	1.2590E+05 +/- 2.343E+01	0.00	0.02	0.02
12	3007	205	11.4281	4.6791E+03 +/- 7.817E+01	1.67	0.03	1.67
13	3007	207	9.77281	6.0322E+03 +/- 1.332E+02	2.21	0.03	2.21
14	5000	1	5.187-8	1.0476E+07 +/- 4.978E+03	0.00	0.05	0.05
15	5000	2	1.181-3	3.4837E+05 +/- 6.252E+01	0.00	0.02	0.02
16	5000	101	4.996-8	1.0116E+07 +/- 4.941E+03	0.00	0.05	0.05
17	5000	205	8.32635	6.4051E+02 +/- 4.988E+01	7.79	0.03	7.79
18	5000	207	4.997-8	1.0117E+07 +/- 7.842E+04	0.77	0.05	0.78
19	5010	1	5.018-8	5.1072E+07 +/- 2.487E+04	0.00	0.05	0.05
20	5010	2	0.01216	2.1007E+05 +/- 3.600E+01	0.00	0.02	0.02
21	5010	101	4.996-8	5.0831E+07 +/- 2.483E+04	0.00	0.05	0.05
22	5010	107	4.995-8	5.0822E+07 +/- 3.941E+05	0.77	0.05	0.78
23	5010	205	6.65975	2.7099E+03 +/- 2.316E+02	8.55	0.03	8.55
24	5010	207	4.996-8	5.0831E+07 +/- 3.941E+05	0.77	0.05	0.78
25	5010	800	5.003-8	3.2049E+06 +/- 2.706E+04	0.84	0.05	0.84
26	5010	801	4.995-8	4.7617E+07 +/- 3.931E+05	0.82	0.05	0.83
27	5011	1	1.101-3	3.9044E+05 +/- 6.972E+01	0.00	0.02	0.02
28	5011	2	8.988-4	3.8275E+05 +/- 6.953E+01	0.00	0.02	0.02
29	5011	205	14.5277	1.2639E+02 +/- 2.408E+01	19.05	0.03	19.05
30	5011	207	14.3977	2.3661E+03 +/- 5.186E+02	21.92	0.03	21.92
31	9019	16	14.5796	2.7725E+02 +/- 7.978E+00	2.88	0.03	2.88
32	11023	1	2.925-3	6.3262E+05 +/- 3.984E+02	0.00	0.06	0.06
33	11023	2	2.908-3	6.0179E+05 +/- 3.977E+02	0.00	0.07	0.07
34	11023	16	14.7075	1.7858E+02 +/- 2.588E+00	1.45	0.03	1.45
35	11023	102	5.285-8	7.3961E+03 +/- 1.731E+02	2.34	0.05	2.34
36	12000	11024g	13.8773	1.5276E+03 +/- 8.266E+00	0.54	0.03	0.54
37	12024	103	13.8687	1.9265E+03 +/- 9.295E+00	0.48	0.03	0.48
38	13027	16	14.7594	1.2631E+02 +/- 2.931E+00	2.32	0.03	2.32
39	13027	103	12.1155	1.0734E+03 +/- 1.543E+01	1.44	0.03	1.44
40	13027	107	13.9483	1.1937E+03 +/- 4.471E+00	0.37	0.03	0.37
41	13027	11024g	13.9483	1.1937E+03 +/- 4.471E+00	0.37	0.03	0.37
42	13027	13026g	14.7574	1.2451E+02 +/- 2.913E+00	2.34	0.03	2.34
43	13027	13026m	14.8918	1.7998E+00 +/- 3.449E-01	19.16	0.04	19.16
44	14000	13028g	13.3972	2.9182E+03 +/- 5.109E+01	1.75	0.03	1.75
45	14028	103	13.389	3.1587E+03 +/- 5.539E+01	1.75	0.03	1.75
46	14029	13028g	14.6689	1.0865E+02 +/- 4.424E+00	4.07	0.03	4.07

68	47	15031	103	8.7852	2.1925E+03	+/-	7.251E+01	3.31	0.03	3.31
69	48	16000	15032g	9.6101	4.9581E+03	+/-	7.506E+01	1.51	0.03	1.51
70	49	16032	103	9.60305	5.2125E+03	+/-	7.896E+01	1.51	0.03	1.51
71	50	21045	1	2.152-6	1.6378E+06	+/-	5.055E+02	0.00	0.03	0.03
72	51	21045	2	3.251-5	1.2467E+06	+/-	4.066E+02	0.00	0.03	0.03
73	52	21045	102	4.985-8	3.5909E+05	+/-	2.361E+04	6.57	0.05	6.57
74	53	22000	21046g	0	3.0852E+02	+/-	5.363E+00	1.74	0.03	1.74
75	54	22000	21047g	13.8226	1.9154E+02	+/-	5.296E+00	2.76	0.03	2.77
76	55	22000	21048g	14.1745	4.2406E+02	+/-	1.181E+01	2.78	0.03	2.78
77	56	22000	22045g	14.7611	1.6999E+01	+/-	8.789E-01	5.17	0.03	5.17
78	57	22046	16	14.7611	2.0605E+02	+/-	1.065E+01	5.17	0.03	5.17
79	58	22046	103	12.5404	3.4311E+03	+/-	6.336E+01	1.85	0.03	1.85
80	59	22047	103	11.8186	1.9400E+03	+/-	5.051E+01	2.60	0.03	2.60
81	60	22048	103	14.1695	5.7261E+02	+/-	1.602E+01	2.80	0.03	2.80
82	61	23051	107	14.3955	1.2955E+02	+/-	1.731E+00	1.34	0.03	1.34
83	62	23051	21048g	14.3955	1.2955E+02	+/-	1.732E+00	1.34	0.03	1.34
84	63	24000	24051g	14.6235	1.8001E+03	+/-	3.921E+01	2.18	0.03	2.18
85	64	25055	1	3.696-4	2.6511E+06	+/-	2.382E+03	0.00	0.09	0.09
86	65	25055	2	3.889-4	2.4062E+06	+/-	2.343E+03	0.00	0.10	0.10
87	66	25055	16	14.4806	5.4459E+03	+/-	6.278E+01	1.15	0.03	1.15
88	67	25055	102	6.092-8	2.0245E+05	+/-	3.257E+03	1.61	0.05	1.61
89	68	26000	24051g	14.109	5.1190E+01	+/-	8.019E-01	1.57	0.03	1.57
90	69	26000	25054g	0	4.0710E+02	+/-	7.229E+00	1.78	0.03	1.78
91	70	26000	25056g	13.954	1.0385E+03	+/-	1.209E+01	1.16	0.03	1.16
92	71	26000	26053g	14.8076	2.1854E+00	+/-	2.278E-01	10.43	0.03	10.43
93	72	26054	1	8.293-3	6.5268E+05	+/-	4.060E+02	0.00	0.06	0.06
94	73	26054	2	8.295-3	5.9291E+05	+/-	4.043E+02	0.00	0.07	0.07
95	74	26054	16	14.8076	3.7389E+01	+/-	3.898E+00	10.43	0.03	10.43
96	75	26054	103	9.64082	6.9648E+03	+/-	1.237E+02	1.78	0.03	1.78
97	76	26054	107	14.109	8.7579E+02	+/-	1.372E+01	1.57	0.03	1.57
98	77	26056	103	13.9508	1.1299E+03	+/-	1.318E+01	1.17	0.03	1.17
99	78	26058	1	6.410-3	6.8528E+05	+/-	1.755E+02	0.00	0.03	0.03
100	79	26058	2	1.989-3	6.0947E+05	+/-	1.698E+02	0.00	0.03	0.03
101	80	26058	102	6.030-8	1.9910E+04	+/-	9.634E+02	4.84	0.05	4.84
102	81	27059	1	1.314-4	3.5586E+06	+/-	5.579E+03	0.00	0.16	0.16
103	82	27059	2	1.327-4	2.8426E+06	+/-	5.116E+03	0.00	0.18	0.18
104	83	27059	16	14.4951	5.1314E+03	+/-	4.077E+01	0.79	0.03	0.79
105	84	27059	102	8.516-8	6.8313E+05	+/-	4.838E+03	0.70	0.08	0.71
106	85	27059	103	13.4598	5.7348E+02	+/-	1.037E+01	1.81	0.03	1.81
107	86	27059	107	14.1817	2.8946E+02	+/-	5.668E+00	1.96	0.03	1.96
108	87	27059	25056g	14.1817	2.8946E+02	+/-	5.668E+00	1.96	0.03	1.96
109	88	28000	27058g	0	5.6627E+03	+/-	7.327E+01	1.29	0.03	1.29
110	89	28000	27060g	13.7335	4.1228E+02	+/-	3.696E+00	0.90	0.03	0.90
111	90	28000	28057g	14.6496	1.3248E+02	+/-	1.650E+00	1.25	0.03	1.25
112	91	28058	16	14.6496	1.9460E+02	+/-	2.424E+00	1.25	0.03	1.25
113	92	28058	103	9.19214	8.3181E+03	+/-	1.076E+02	1.29	0.03	1.29
114	93	28060	103	13.7151	1.5616E+03	+/-	1.340E+01	0.86	0.03	0.86
115	94	29000	27060g	13.8669	3.1976E+02	+/-	5.167E+00	1.62	0.03	1.62
116	95	29000	29062g	14.5555	2.3212E+03	+/-	2.628E+01	1.13	0.03	1.13
117	96	29000	29064g	6.906-8	5.0951E+04	+/-	1.901E+03	3.73	0.06	3.73
118	97	29063	1	2.158-3	6.7908E+05	+/-	2.353E+02	0.00	0.03	0.03
119	98	29063	2	2.673-3	5.7298E+05	+/-	2.177E+02	0.00	0.04	0.04
120	99	29063	16	14.5555	3.3567E+03	+/-	3.800E+01	1.13	0.03	1.13
121	100	29063	102	6.450-8	7.0694E+04	+/-	2.756E+03	3.90	0.06	3.90
122	101	29063	107	13.8669	4.6241E+02	+/-	7.473E+00	1.62	0.03	1.62
123	102	29065	16	14.4711	6.6986E+03	+/-	9.544E+01	1.42	0.03	1.42
124	103	30000	29064g	9.88604	1.6758E+03	+/-	1.987E+01	1.19	0.03	1.19
125	104	30000	29067g	14.3779	2.2913E+01	+/-	1.229E+00	5.36	0.03	5.36
126	105	30064	103	9.88597	3.4082E+03	+/-	4.041E+01	1.19	0.03	1.19
127	106	30067	103	13.9327	3.7506E+02	+/-	9.695E+00	2.58	0.03	2.58
128	107	30068	1	5.205-4	1.0061E+06	+/-	1.481E+03	0.00	0.15	0.15
129	108	30068	2	5.199-4	9.4782E+05	+/-	1.454E+03	0.00	0.15	0.15
130	109	30068	29067g	14.6614	4.2062E+01	+/-	6.314E+00	15.01	0.03	15.01
131	110	33075	16	14.4825	7.1375E+03	+/-	1.874E+02	2.63	0.03	2.63
132	111	39089	16	14.5514	6.1837E+03	+/-	5.376E+01	0.87	0.03	0.87
133	112	40000	40089g	14.5928	2.3517E+03	+/-	1.896E+01	0.81	0.03	0.81
134	113	40090	16	14.5928	4.5708E+03	+/-	3.686E+01	0.81	0.03	0.81
135	114	41093	1	5.125-3	7.0776E+05	+/-	1.271E+02	0.00	0.02	0.02
136	115	41093	2	4.122-3	6.1180E+05	+/-	1.108E+02	0.00	0.02	0.02

137	116	41093	102	1.999-4	4.6541E+04	+/-	1.248E+03	2.68	0.06	2.68
138	117	41093	41093m	3.96254	4.3357E+03	+/-	1.142E+02	2.63	0.03	2.63
139	118	41093	41092m	14.32	3.8103E+03	+/-	1.909E+01	0.50	0.03	0.50
140	119	41093	41094g	1.999-4	1.1623E+04	+/-	3.117E+02	2.68	0.06	2.68
141	120	41093	41094m	1.999-4	3.4918E+04	+/-	9.364E+02	2.68	0.06	2.68
142	121	42000	41092m	10.9911	1.7538E+02	+/-	2.431E+00	1.39	0.03	1.39
143	122	42092	41092m	10.9903	1.2069E+03	+/-	1.673E+01	1.39	0.03	1.39
144	123	45103	45103m	3.97401	2.3855E+04	+/-	9.062E+02	3.80	0.03	3.80
145	124	47109	1	5.136-6	5.7385E+06	+/-	1.107E+04	0.00	0.19	0.19
146	125	47109	2	7.413-5	8.4806E+05	+/-	9.534E+02	0.00	0.11	0.11
147	126	47109	47110n	5.098-6	2.2437E+05	+/-	1.394E+04	6.21	0.21	6.21
148	127	48000	1	8.872-8	5.6104E+07	+/-	2.727E+04	0.00	0.05	0.05
149	128	48000	2	3.667-4	7.9171E+05	+/-	2.191E+02	0.00	0.03	0.03
150	129	48000	101	8.748-8	5.5258E+07	+/-	2.713E+04	0.00	0.05	0.05
151	130	49000	49114m	1.491-5	3.9854E+04	+/-	2.098E+03	5.26	0.09	5.27
152	131	49113	1	1.493-5	1.6098E+06	+/-	1.320E+03	0.00	0.08	0.08
153	132	49113	2	2.768-3	5.4277E+05	+/-	1.353E+02	0.00	0.02	0.02
154	133	49113	102	2.696-6	1.0243E+06	+/-	1.241E+03	0.00	0.12	0.12
155	134	49113	49113m	4.28004	4.8420E+03	+/-	5.441E+01	1.12	0.03	1.12
156	135	49113	49114g	2.316-6	3.3124E+05	+/-	2.341E+04	7.07	0.12	7.07
157	136	49113	49114m	3.283-6	6.9309E+05	+/-	4.863E+04	7.02	0.12	7.02
158	137	49115	1	1.428-6	1.0760E+07	+/-	1.804E+04	0.00	0.17	0.17
159	138	49115	2	2.408-5	7.4846E+05	+/-	7.247E+02	0.00	0.10	0.10
160	139	49115	102	1.418-6	9.9694E+06	+/-	1.732E+04	0.00	0.17	0.17
161	140	49115	49115m	4.18884	5.8271E+03	+/-	9.082E+01	1.56	0.03	1.56
162	141	49115	49114m	14.3962	1.0575E+04	+/-	2.355E+02	2.23	0.03	2.23
163	142	49115	49116g	1.418-6	2.0935E+06	+/-	4.811E+04	2.29	0.17	2.30
164	143	49115	49116m	1.418-6	7.8759E+06	+/-	1.810E+05	2.29	0.17	2.30
165	144	53127	16	14.368	1.1840E+04	+/-	2.621E+02	2.21	0.03	2.21
166	145	57139	1	5.499-5	9.7026E+05	+/-	2.436E+02	0.00	0.03	0.03
167	146	57139	2	7.542-5	7.7381E+05	+/-	1.683E+02	0.00	0.02	0.02
168	147	57139	102	6.574-8	1.4452E+05	+/-	6.067E+03	4.20	0.07	4.20
169	148	59141	16	14.3973	1.2978E+04	+/-	6.754E+02	5.20	0.03	5.20
170	149	64000	1	3.379-8	4.2958E+08	+/-	2.687E+05	0.00	0.06	0.06
171	150	64000	2	6.610-8	2.7077E+06	+/-	1.020E+03	0.00	0.04	0.04
172	151	64000	101	3.367-8	4.2677E+08	+/-	2.678E+05	0.00	0.06	0.06
173	152	69169	16	14.2281	1.8536E+04	+/-	3.584E+02	1.93	0.03	1.93
174	153	69169	17	15.1562	2.4948E+00	+/-	1.727E+00	69.23	0.08	69.23
175	154	73181	1	1.365-5	3.1473E+06	+/-	3.376E+03	0.00	0.11	0.11
176	155	73181	2	2.718-4	1.0445E+06	+/-	5.295E+02	0.00	0.05	0.05
177	156	73181	102	4.430-6	2.0021E+06	+/-	6.635E+04	3.31	0.15	3.31
178	157	74186	1	1.869-5	1.0863E+07	+/-	2.868E+04	0.00	0.26	0.26
179	158	74186	2	1.873-5	8.9827E+06	+/-	2.488E+04	0.00	0.28	0.28
180	159	74186	102	1.836-5	1.7947E+06	+/-	4.890E+04	2.72	0.21	2.72
181	160	79197	1	4.870-6	6.6337E+06	+/-	1.261E+04	0.00	0.19	0.19
182	161	79197	2	6.293-5	1.4956E+06	+/-	1.422E+03	0.00	0.10	0.10
183	162	79197	16	14.2721	1.8670E+04	+/-	1.778E+02	0.95	0.03	0.95
184	163	79197	102	4.822-6	5.0602E+06	+/-	8.353E+04	1.64	0.22	1.65
185	164	80199	80199m	5.31773	1.0583E+04	+/-	3.557E+02	3.36	0.03	3.36
186	165	82204	82204m	9.49677	2.1416E+03	+/-	7.550E+01	3.53	0.04	3.53
187	166	83209	16	14.1239	2.1377E+04	+/-	5.485E+02	2.57	0.03	2.57
188	167	83209	17	15.0676	7.6123E+00	+/-	4.531E+00	59.53	0.06	59.53
189	168	90232	1	1.790-4	1.6317E+06	+/-	7.271E+02	0.00	0.04	0.04
190	169	90232	2	3.581-4	1.1804E+06	+/-	4.014E+02	0.00	0.03	0.03
191	170	90232	18	10.5453	6.1806E+03	+/-	3.717E+02	6.01	0.03	6.01
192	171	90232	102	2.352-5	3.4511E+05	+/-	5.063E+03	1.46	0.12	1.47
193	172	92235	1	5.713-8	1.0187E+07	+/-	4.520E+03	0.00	0.04	0.04
194	173	92235	18	4.878-8	7.6156E+06	+/-	3.504E+04	0.46	0.05	0.46
195	174	92238	1	3.772-5	2.3184E+06	+/-	2.361E+03	0.00	0.10	0.10
196	175	92238	2	1.803-4	1.4151E+06	+/-	9.232E+02	0.00	0.07	0.07
197	176	92238	16	12.2518	1.2238E+04	+/-	6.248E+02	5.11	0.04	5.11
198	177	92238	18	10.1015	1.9964E+04	+/-	2.439E+02	1.22	0.02	1.22
199	178	92238	102	2.019-5	7.8849E+05	+/-	8.792E+03	1.09	0.22	1.12
200	179	93237	1	4.899-7	5.4417E+06	+/-	2.488E+03	0.00	0.05	0.05
201	180	93237	2	2.488-4	1.0421E+06	+/-	2.002E+02	0.00	0.02	0.02
202	181	93237	18	5.03329	5.8658E+04	+/-	1.011E+03	1.72	0.02	1.72
203	182	94239	1	1.091-7	2.2264E+07	+/-	1.096E+04	0.00	0.05	0.05
204	183	94239	2	1.109-3	8.5731E+05	+/-	1.634E+02	0.00	0.02	0.02
205	184	94239	18	8.638-8	1.4223E+07	+/-	1.776E+05	1.25	0.05	1.25

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    185 95241      1  2.342-7 1.4545E+07 +/- 7.718E+03     0.00   0.05   0.05
    186 95241      2  9.519-4 9.1213E+05 +/- 1.671E+02     0.00   0.02   0.02
    187 95241     18  1.652-6 1.3592E+05 +/- 2.557E+03     1.88   0.04   1.88
```