

```

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      :
8 ..\IRDFF-II.g725
9 Source spectrum file    :
10 ..\IRDFF-II_sp.g
11 Reaction rate integ.flag :      1
12 Reaction rate norm. flag :      1
13
14 Spectrum MAT No.       :    9950
15 Spectrum Integral      :    1.128E+00
16 Spectrum average energy [eV] :    1.000E+05
17 Spectrum peak energy [eV] :    5.123E+04
18 Reaction rate RR = spectrum integral

```

No.	Mat.	MT	E(50%) [MeV]	<RR> +/- [mb]	Unc	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
19	1	3000	1	0.11211	1.5643E+03 +/- 0.000E+00	0.00	0.00	0.00
20	2	3000	2	0.11267	1.4805E+03 +/- 0.000E+00	0.00	0.00	0.00
21	3	3000	205	0.1021	8.3766E+01 +/- 4.482E-01	0.54	0.00	0.54
22	4	3000	207	0.10205	8.3838E+01 +/- 4.483E-01	0.53	0.00	0.53
23	5	3006	1	0.13903	2.6851E+03 +/- 0.000E+00	0.00	0.00	0.00
24	6	3006	2	0.16671	1.5815E+03 +/- 0.000E+00	0.00	0.00	0.00
25	7	3006	105	0.1021	1.1036E+03 +/- 5.906E+00	0.54	0.00	0.54
26	8	3006	205	0.1021	1.1036E+03 +/- 5.906E+00	0.54	0.00	0.54
27	9	3006	207	0.1021	1.1036E+03 +/- 5.906E+00	0.54	0.00	0.54
28	10	3007	1	0.10885	1.4723E+03 +/- 0.000E+00	0.00	0.00	0.00
29	11	3007	2	0.10885	1.4722E+03 +/- 0.000E+00	0.00	0.00	0.00
30	12	3007	207	0.05927	7.8143E-02 +/- 4.135E-03	5.29	0.00	5.29
31	13	5000	1	0.07874	5.2526E+03 +/- 0.000E+00	0.00	0.00	0.00
32	14	5000	2	0.08084	4.7077E+03 +/- 0.000E+00	0.00	0.00	0.00
33	15	5000	101	0.06092	5.4377E+02 +/- 0.000E+00	0.00	0.00	0.00
34	16	5000	205	0.20323	1.3222E-01 +/- 3.921E-02	29.66	0.00	29.66
35	17	5000	207	0.06095	5.4395E+02 +/- 3.875E+00	0.71	0.00	0.71
36	18	5010	1	0.07886	5.9328E+03 +/- 0.000E+00	0.00	0.00	0.00
37	19	5010	2	0.09588	3.1946E+03 +/- 0.000E+00	0.00	0.00	0.00
38	20	5010	101	0.06092	2.7324E+03 +/- 0.000E+00	0.00	0.00	0.00
39	21	5010	107	0.06092	2.7321E+03 +/- 1.947E+01	0.71	0.00	0.71
40	22	5010	205	0.20323	6.6444E-01 +/- 1.971E-01	29.66	0.00	29.66
41	23	5010	207	0.06095	2.7334E+03 +/- 1.947E+01	0.71	0.00	0.71
42	24	5010	800	0.06789	1.9207E+02 +/- 1.876E+00	0.98	0.00	0.98
43	25	5010	801	0.06045	2.5400E+03 +/- 1.938E+01	0.76	0.00	0.76
44	26	5011	1	0.0787	5.0837E+03 +/- 0.000E+00	0.00	0.00	0.00
45	27	5011	2	0.0787	5.0836E+03 +/- 0.000E+00	0.00	0.00	0.00
46	28	11023	1	0.06715	4.9437E+03 +/- 0.000E+00	0.00	0.00	0.00
47	29	11023	2	0.06716	4.9420E+03 +/- 0.000E+00	0.00	0.00	0.00
48	30	11023	102	0.0536	1.5833E+00 +/- 1.541E-01	9.73	0.00	9.73
49	31	13027	103	1.94942	1.5546E-20 +/- 0.000E+00	0.00	0.00	0.00
50	32	15031	103	0.82033	4.0086E-08 +/- 1.503E-08	37.50	0.00	37.50
51	33	16000	15032g	1.27558	1.9483E-11 +/- 2.299E-12	11.80	0.00	11.80
52	34	16032	103	1.27558	2.0510E-11 +/- 2.420E-12	11.80	0.00	11.80
53	35	21045	1	0.06642	9.2520E+03 +/- 0.000E+00	0.00	0.00	0.00
54	36	21045	2	0.06636	9.1815E+03 +/- 0.000E+00	0.00	0.00	0.00
55	37	21045	102	0.05152	4.9192E+01 +/- 3.001E+00	6.10	0.00	6.10
56	38	22000	21047g	0	5.8442E-09 +/- 4.050E-10	6.93	0.00	6.93
57	39	22047	103	0.99992	7.8551E-08 +/- 5.443E-09	6.93	0.00	6.93
58	40	25055	1	0.05053	9.2189E+03 +/- 0.000E+00	0.00	0.00	0.00
59	41	25055	2	0.04862	9.0647E+03 +/- 0.000E+00	0.00	0.00	0.00
60	42	25055	102	0.04689	2.2473E+01 +/- 1.425E+00	6.34	0.00	6.34
61	43	26000	24051g	0	8.6114E-06 +/- 8.393E-07	9.75	0.00	9.75
62	44	26000	25054g	0	1.2652E-08 +/- 1.943E-09	15.36	0.00	15.36
63	45	26054	1	0.05451	7.4859E+03 +/- 0.000E+00	0.00	0.00	0.00
64	46	26054	2	0.05451	7.4661E+03 +/- 0.000E+00	0.00	0.00	0.00

68	47	26054	103	0.70335	2.1646E-07	+/-	3.324E-08	15.36	0.00	15.36
69	48	26054	107	0.05915	1.4733E-04	+/-	1.436E-05	9.75	0.00	9.75
70	49	26058	1	0.07059	1.1693E+04	+/-	0.000E+00	0.00	0.00	0.00
71	50	26058	2	0.07048	1.1666E+04	+/-	0.000E+00	0.00	0.00	0.00
72	51	26058	102	0.06506	1.1975E+01	+/-	1.786E+00	14.92	0.00	14.92
73	52	27059	1	0.06248	9.2011E+03	+/-	0.000E+00	0.00	0.00	0.00
74	53	27059	2	0.0625	9.1759E+03	+/-	0.000E+00	0.00	0.00	0.00
75	54	27059	102	0.0542	2.5186E+01	+/-	6.344E-01	2.52	0.00	2.52
76	55	27059	103	0.88388	3.3170E-11	+/-	2.983E-11	89.93	0.00	89.93
77	56	27059	107	0.42806	6.2579E-09	+/-	6.025E-09	96.28	0.00	96.28
78	57	27059	25056g	0.42806	6.2579E-09	+/-	6.025E-09	96.28	0.00	96.28
79	58	28000	27058g	0	3.5720E-06	+/-	2.414E-07	6.76	0.00	6.76
80	59	28058	103	0.64902	5.2470E-06	+/-	3.546E-07	6.76	0.00	6.76
81	60	29000	29064g	0.04791	3.5245E+01	+/-	3.270E+00	9.28	0.00	9.28
82	61	29063	1	0.07226	8.3058E+03	+/-	0.000E+00	0.00	0.00	0.00
83	62	29063	2	0.07234	8.2548E+03	+/-	0.000E+00	0.00	0.00	0.00
84	63	29063	102	0.04791	5.0969E+01	+/-	4.729E+00	9.28	0.00	9.28
85	64	30000	29064g	0.59173	5.7248E-07	+/-	1.028E-07	17.96	0.00	17.96
86	65	30000	29067g	0.06272	5.6271E-04	+/-	1.407E-04	25.00	0.00	25.00
87	66	30064	103	0.59173	1.1643E-06	+/-	2.091E-07	17.96	0.00	17.96
88	67	30067	103	0.06702	1.4329E-02	+/-	3.582E-03	25.00	0.00	25.00
89	68	30068	1	0.09617	7.7682E+03	+/-	0.000E+00	0.00	0.00	0.00
90	69	30068	2	0.09622	7.7530E+03	+/-	0.000E+00	0.00	0.00	0.00
91	70	41093	1	0.08766	1.0141E+04	+/-	0.000E+00	0.00	0.00	0.00
92	71	41093	2	0.08835	9.9506E+03	+/-	0.000E+00	0.00	0.00	0.00
93	72	41093	102	0.04785	1.8466E+02	+/-	1.291E+00	0.70	0.00	0.70
94	73	41093	41093m	0.1675	1.2308E+00	+/-	7.041E-02	5.72	0.00	5.72
95	74	41093	41094g	0.04785	4.6115E+01	+/-	3.224E-01	0.70	0.00	0.70
96	75	41093	41094m	0.04785	1.3854E+02	+/-	9.687E-01	0.70	0.00	0.70
97	76	42000	41092m	1.07913	2.6404E-11	+/-	6.632E-12	25.12	0.00	25.12
98	77	42092	41092m	1.07913	1.8172E-10	+/-	4.564E-11	25.12	0.00	25.12
99	78	45103	45103m	0.19329	1.6475E+01	+/-	3.174E+00	19.27	0.00	19.27
100	79	47109	1	0.0834	9.1125E+03	+/-	0.000E+00	0.00	0.00	0.00
101	80	47109	2	0.0854	8.4043E+03	+/-	0.000E+00	0.00	0.00	0.00
102	81	47109	47110n	0.0669	4.9199E+01	+/-	3.316E+00	6.74	0.00	6.74
103	82	48000	1	0.08412	8.5883E+03	+/-	0.000E+00	0.00	0.00	0.00
104	83	48000	2	0.08492	8.3186E+03	+/-	0.000E+00	0.00	0.00	0.00
105	84	48000	101	0.05849	2.6797E+02	+/-	0.000E+00	0.00	0.00	0.00
106	85	49000	49114m	0.05991	2.3849E+01	+/-	6.717E-01	2.82	0.00	2.82
107	86	49113	1	0.0815	7.3799E+03	+/-	0.000E+00	0.00	0.00	0.00
108	87	49113	2	0.08408	6.6600E+03	+/-	0.000E+00	0.00	0.00	0.00
109	88	49113	102	0.05828	7.3496E+02	+/-	0.000E+00	0.00	0.00	0.00
110	89	49113	49113m	0.49303	3.7372E-03	+/-	4.493E-04	12.02	0.00	12.02
111	90	49113	49114g	0.05323	1.7905E+02	+/-	5.009E+00	2.80	0.00	2.80
112	91	49113	49114m	0.05991	5.5592E+02	+/-	1.566E+01	2.82	0.00	2.82
113	92	49115	1	0.08208	7.3177E+03	+/-	0.000E+00	0.00	0.00	0.00
114	93	49115	2	0.08431	6.7216E+03	+/-	0.000E+00	0.00	0.00	0.00
115	94	49115	102	0.05705	5.8881E+02	+/-	0.000E+00	0.00	0.00	0.00
116	95	49115	49115m	0.43565	1.4963E-02	+/-	6.603E-04	4.41	0.00	4.41
117	96	49115	49116g	0.05701	1.2356E+02	+/-	4.276E+00	3.46	0.00	3.46
118	97	49115	49116m	0.05706	4.6525E+02	+/-	1.609E+01	3.46	0.00	3.46
119	98	57139	1	0.07891	6.8367E+03	+/-	0.000E+00	0.00	0.00	0.00
120	99	57139	2	0.07867	6.7741E+03	+/-	0.000E+00	0.00	0.00	0.00
121	100	57139	102	0.04865	2.9055E+01	+/-	2.322E+00	7.99	0.00	7.99
122	101	64000	1	0.07409	1.0415E+04	+/-	0.000E+00	0.00	0.00	0.00
123	102	64000	2	0.07325	9.4672E+03	+/-	0.000E+00	0.00	0.00	0.00
124	103	64000	101	0.05315	6.3094E+02	+/-	0.000E+00	0.00	0.00	0.00
125	104	73181	1	0.07281	1.1012E+04	+/-	0.000E+00	0.00	0.00	0.00
126	105	73181	2	0.07227	9.4455E+03	+/-	0.000E+00	0.00	0.00	0.00
127	106	73181	102	0.05464	5.5204E+02	+/-	2.833E+01	5.13	0.00	5.13
128	107	74186	1	0.07056	1.2401E+04	+/-	0.000E+00	0.00	0.00	0.00
129	108	74186	2	0.06999	1.2135E+04	+/-	0.000E+00	0.00	0.00	0.00
130	109	74186	102	0.06145	1.4927E+02	+/-	3.051E+00	2.04	0.00	2.04
131	110	79197	1	0.07273	1.2446E+04	+/-	0.000E+00	0.00	0.00	0.00
132	111	79197	2	0.07256	1.1856E+04	+/-	0.000E+00	0.00	0.00	0.00
133	112	79197	102	0.05791	4.7041E+02	+/-	2.318E+00	0.49	0.00	0.49
134	113	80199	80199m	0.62471	2.8063E-03	+/-	2.110E-04	7.52	0.00	7.52
135	114	90232	1	0.07743	1.4359E+04	+/-	0.000E+00	0.00	0.00	0.00
136	115	90232	2	0.07618	1.3589E+04	+/-	0.000E+00	0.00	0.00	0.00

137	116	90232	18	0.11959	2.4332E-03	+/-	1.756E-03	72.15	0.00	72.15
138	117	90232	102	0.05465	3.6388E+02	+/-	4.172E+00	1.15	0.00	1.15
139	118	92235	1	0.0773	1.4101E+04	+/-	0.000E+00	0.00	0.00	0.00
140	119	92235	18	0.0717	1.9447E+03	+/-	2.364E+01	1.22	0.00	1.22
141	120	92238	1	0.07743	1.3893E+04	+/-	0.000E+00	0.00	0.00	0.00
142	121	92238	2	0.0758	1.3136E+04	+/-	0.000E+00	0.00	0.00	0.00
143	122	92238	18	0.10535	9.4955E-02	+/-	6.711E-03	7.07	0.00	7.07
144	123	92238	102	0.05216	2.9139E+02	+/-	4.509E+00	1.55	0.00	1.55
145	124	93237	1	0.07559	1.3970E+04	+/-	0.000E+00	0.00	0.00	0.00
146	125	93237	2	0.07482	1.1677E+04	+/-	0.000E+00	0.00	0.00	0.00
147	126	93237	18	0.12238	2.6932E+01	+/-	5.494E+00	20.40	0.00	20.40
148	127	94239	1	0.07746	1.4110E+04	+/-	0.000E+00	0.00	0.00	0.00
149	128	94239	2	0.07579	1.1223E+04	+/-	0.000E+00	0.00	0.00	0.00
150	129	94239	18	0.08124	1.7727E+03	+/-	2.237E+01	1.26	0.00	1.26
151	130	95241	1	0.07879	1.4504E+04	+/-	0.000E+00	0.00	0.00	0.00
152	131	95241	2	0.0794	1.2248E+04	+/-	0.000E+00	0.00	0.00	0.00
153	132	95241	18	0.09632	1.9638E+01	+/-	5.496E-01	2.80	0.00	2.80
154										
155										