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 RR_UNC - Calculate uncertainties in reaction rates
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 Andrej Trkov, Jozef Stefan Institute, Ljubljana, Slovenia
                  Version Jul. 2019
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 Reference x.s. file      :
..\IRDFF-II.g725
 Source spectrum file     :
..\IRDFF-II_sp.g
 Reaction rate integ.flag :      1
 Reaction rate norm. flag :      1

 Spectrum MAT No.         :   9043
 Spectrum Integral            :  1.554E+02
 Spectrum average energy [eV] :  9.228E+05
 Spectrum peak energy    [eV] :  9.398E+00
 Reaction rate RR = spectrum integral

                                                                  Unc.    Unc.    Unc.
   No.  Mat.     MT    E(50%)        <RR> +/-  Unc               x.s.    Sp.     Total
                       [MeV]              [mb]                    [%]     [%]     [%]
 ----- ------ ------ ------- ------------------------           ------ ------ ------
     1  3000      1  0.28709 2.7207E+05 +/- 1.229E+03            0.00   0.45   0.45
     2  3000      2  0.31663 2.2957E+05 +/- 1.079E+03            0.00   0.47   0.47
     3  3000    205  1.749-4 3.1352E+04 +/- 3.399E+02            0.41   1.00   1.08
     4  3000    207  1.901-4 3.2034E+04 +/- 3.646E+02            0.57   0.99   1.14
     5  3006      1  1.868-3 6.2333E+05 +/- 4.496E+03            0.00   0.72   0.72
     6  3006      2  0.30509 2.1668E+05 +/- 1.103E+03            0.00   0.51   0.51
     7  3006    105  1.514-4 3.9772E+05 +/- 4.449E+03            0.41   1.04   1.12
     8  3006    205  1.514-4 3.9772E+05 +/- 4.449E+03            0.41   1.04   1.12
     9  3006    207  1.639-4 4.0626E+05 +/- 4.768E+03            0.58   1.02   1.17
    10  3007      1  0.37609 2.4322E+05 +/- 1.125E+03            0.00   0.46   0.46
    11  3007      2  0.31814 2.3063E+05 +/- 1.084E+03            0.00   0.47   0.47
    12  3007    205  5.87653 1.2607E+03 +/- 4.160E+01            2.51   2.14   3.30
    13  3007    207  5.84227 1.2967E+03 +/- 4.163E+01            2.45   2.08   3.21
    14  5000      1  7.844-3 8.0714E+05 +/- 4.522E+03            0.00   0.56   0.56
    15  5000      2  0.11496 5.1365E+05 +/- 1.993E+03            0.00   0.39   0.39
    16  5000    101  1.066-4 2.9137E+05 +/- 3.351E+03            0.00   1.15   1.15
    17  5000    205  2.99287 6.6294E+02 +/- 8.860E+01           13.34   0.78  13.36
    18  5000    207  1.074-4 2.9205E+05 +/- 3.935E+03            0.71   1.15   1.35
    19  5010      1  2.257-4 1.8384E+06 +/- 1.729E+04            0.00   0.94   0.94
    20  5010      2  0.28744 3.7055E+05 +/- 1.431E+03            0.00   0.39   0.39
    21  5010    101  1.066-4 1.4642E+06 +/- 1.684E+04            0.00   1.15   1.15
    22  5010    107  1.058-4 1.4606E+06 +/- 1.978E+04            0.71   1.15   1.35
    23  5010    205  2.99115 3.3297E+03 +/- 4.452E+02           13.35   0.78  13.37
    24  5010    207  1.074-4 1.4675E+06 +/- 1.977E+04            0.71   1.15   1.35
    25  5010    800  1.673-4 1.0525E+05 +/- 3.392E+03            3.06   1.01   3.22
    26  5010    801  1.027-4 1.3554E+06 +/- 1.865E+04            0.73   1.16   1.38
    27  5011      1  0.09286 5.5099E+05 +/- 2.159E+03            0.00   0.39   0.39
    28  5011      2  0.09096 5.4921E+05 +/- 2.157E+03            0.00   0.39   0.39
    29  5011    205   12.771 4.1006E-01 +/- 1.153E-01           17.08  22.33  28.11
    30  5011    207  11.3762 1.6740E+01 +/- 3.359E+00           14.78  13.57  20.07
    31  9019     16  13.6981 5.7905E-01 +/- 1.776E-01            3.16  30.52  30.68
    32 11023      1  3.397-3 1.0799E+06 +/- 1.441E+04            0.00   1.33   1.33
    33 11023      2  3.282-3 1.0425E+06 +/- 1.438E+04            0.00   1.38   1.38
    34 11023     16  14.1576 1.8436E-01 +/- 7.575E-02            1.62  41.06  41.09
    35 11023    102  2.710-3 7.3327E+02 +/- 2.981E+01            3.66   1.77   4.07
    36 12000  11024g 8.23218 7.1031E+01 +/- 3.476E+00            0.81   4.83   4.89
    37 12024    103  8.23201 8.9913E+01 +/- 4.400E+00            0.81   4.83   4.89
    38 13027     16  14.2436 8.9396E-02 +/- 4.371E-02            2.83  48.81  48.90
    39 13027    103   5.7134 2.2993E+02 +/- 6.561E+00            2.05   1.98   2.85
    40 13027    107  8.59686 4.2921E+01 +/- 2.322E+00            0.73   5.36   5.41
    41 13027  11024g 8.59686 4.2921E+01 +/- 2.322E+00            0.73   5.36   5.41
    42 13027  13026g 14.2418 8.7999E-02 +/- 4.286E-02            2.83  48.62  48.71
    43 13027  13026m 15.5402 1.3968E-03 +/- 1.269E-03           33.76  84.37  90.87
    44 14000  13028g 7.03891 2.9443E+02 +/- 1.225E+01            2.53   3.31   4.16
    45 14028    103  7.03888 3.1925E+02 +/- 1.328E+01            2.53   3.31   4.16
    46 14029  13028g 13.7755 1.6954E-01 +/- 5.649E-02            4.11  33.06  33.32
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68	47	15031	103	3.54571	2.1255E+03	+/- 7.680E+01	3.48	0.98	3.61	
69	48	16000	15032g	3.96359	3.8345E+03	+/- 1.054E+02	2.53	1.07	2.75	
70	49	16032	103	3.96358	4.0367E+03	+/- 1.109E+02	2.53	1.07	2.75	
71	50	21045	1	7.871-3	1.3157E+06	+/- 1.351E+04	0.00	1.03	1.03	
72	51	21045	2	6.785-3	1.2532E+06	+/- 1.342E+04	0.00	1.07	1.07	
73	52	21045	102	4.711-4	1.1091E+04	+/- 6.366E+02	5.62	1.15	5.74	
74	53	22000	21046g	0	5.4953E+01	+/- 2.064E+00	3.14	2.06	3.76	
75	54	22000	21047g	0	8.2010E+01	+/- 2.395E+00	2.76	0.94	2.92	
76	55	22000	21048g	0	1.3474E+01	+/- 9.814E-01	5.44	4.84	7.28	
77	56	22000	22045g	14.2509	1.1740E-02	+/- 6.025E-03	6.69	50.89	51.33	
78	57	22046	16	14.2509	1.4230E-01	+/- 7.304E-02	6.69	50.89	51.33	
79	58	22046	103	5.86827	6.6560E+02	+/- 2.501E+01	3.14	2.06	3.76	
80	59	22047	103	3.52885	1.1014E+03	+/- 3.218E+01	2.76	0.94	2.92	
81	60	22048	103	8.26966	1.8273E+01	+/- 1.331E+00	5.45	4.84	7.28	
82	61	23051	107	9.96158	1.5728E+00	+/- 1.414E-01	3.03	8.46	8.99	
83	62	23051	21048g	9.96158	1.5728E+00	+/- 1.414E-01	3.03	8.46	8.99	
84	63	24000	24051g	13.7958	2.7930E+00	+/- 1.022E+00	2.16	36.54	36.61	
85	64	25055	1	1.069-3	4.0328E+06	+/- 8.159E+04	0.00	2.02	2.02	
86	65	25055	2	1.056-3	3.9021E+06	+/- 8.034E+04	0.00	2.06	2.06	
87	66	25055	16	13.602	1.8412E+01	+/- 4.308E+00	2.15	23.30	23.40	
88	67	25055	102	3.445-4	4.6037E+04	+/- 2.549E+03	4.74	2.86	5.54	
89	68	26000	24051g	0	2.9163E+00	+/- 1.512E-01	3.92	3.39	5.18	
90	69	26000	25054g	0	2.6867E+02	+/- 9.050E+00	3.15	1.18	3.37	
91	70	26000	25056g	0	5.9466E+01	+/- 2.681E+00	2.63	3.66	4.51	
92	71	26000	26053g	15.5019	1.3890E-03	+/- 8.371E-04	10.18	59.40	60.27	
93	72	26054	1	9.724-3	1.1502E+06	+/- 1.568E+04	0.00	1.36	1.36	
94	73	26054	2	9.424-3	1.1155E+06	+/- 1.565E+04	0.00	1.40	1.40	
95	74	26054	16	15.5019	2.3764E-02	+/- 1.432E-02	10.18	59.40	60.27	
96	75	26054	103	4.29434	4.5966E+03	+/- 1.548E+02	3.15	1.18	3.37	
97	76	26054	107	7.20405	4.9894E+01	+/- 2.586E+00	3.92	3.39	5.18	
98	77	26056	103	7.37094	6.4808E+01	+/- 2.922E+00	2.63	3.66	4.51	
99	78	26058	1	0.11446	1.0180E+06	+/- 6.286E+03	0.00	0.62	0.62	
100	79	26058	2	0.06767	8.7980E+05	+/- 6.086E+03	0.00	0.69	0.69	
101	80	26058	102	3.505-4	4.5304E+03	+/- 3.192E+02	5.61	4.27	7.05	
102	81	27059	1	1.340-4	4.1801E+06	+/- 1.722E+05	0.00	4.12	4.12	
103	82	27059	2	1.342-4	3.8768E+06	+/- 1.582E+05	0.00	4.08	4.08	
104	83	27059	16	13.6249	1.5799E+01	+/- 3.938E+00	1.59	24.87	24.93	
105	84	27059	102	1.311-4	2.5612E+05	+/- 1.424E+04	0.77	5.51	5.56	
106	85	27059	103	5.72606	8.2900E+01	+/- 3.422E+00	3.60	2.01	4.13	
107	86	27059	107	8.28495	9.4976E+00	+/- 5.839E-01	3.88	4.77	6.15	
108	87	27059	25056g	8.28495	9.4976E+00	+/- 5.839E-01	3.88	4.77	6.15	
109	88	28000	27058g	0	4.3377E+03	+/- 8.862E+01	1.74	1.08	2.04	
110	89	28000	27060g	0	3.3660E+01	+/- 1.191E+00	1.95	2.96	3.54	
111	90	28000	28057g	14.0342	1.8345E-01	+/- 6.953E-02	1.47	37.87	37.90	
112	91	28058	16	14.0342	2.6947E-01	+/- 1.021E-01	1.47	37.87	37.90	
113	92	28058	103	4.04118	6.3717E+03	+/- 1.302E+02	1.74	1.08	2.04	
114	93	28060	103	6.83653	1.2835E+02	+/- 4.542E+00	1.95	2.96	3.54	
115	94	29000	27060g	7.01861	2.1723E+01	+/- 9.556E-01	3.03	3.19	4.40	
116	95	29000	29062g	13.6914	5.1614E+00	+/- 1.569E+00	1.56	30.36	30.40	
117	96	29000	29064g	5.940-4	1.6356E+04	+/- 1.099E+03	4.72	4.79	6.72	
118	97	29063	1	0.02946	9.8025E+05	+/- 8.488E+03	0.00	0.87	0.87	
119	98	29063	2	0.026	9.0503E+05	+/- 8.067E+03	0.00	0.89	0.89	
120	99	29063	16	13.6914	7.4641E+00	+/- 2.269E+00	1.56	30.36	30.40	
121	100	29063	102	5.940-4	2.3642E+04	+/- 1.621E+03	4.91	4.79	6.86	
122	101	29063	107	7.01861	3.1414E+01	+/- 1.382E+00	3.03	3.19	4.40	
123	102	29065	16	12.7419	2.5427E+01	+/- 5.439E+00	1.89	21.31	21.39	
124	103	30000	29064g	4.05386	1.1192E+03	+/- 2.309E+01	1.73	1.13	2.06	
125	104	30000	29067g	3.48828	3.1898E+00	+/- 2.525E-01	7.76	1.58	7.92	
126	105	30064	103	4.05386	2.2762E+03	+/- 4.696E+01	1.73	1.13	2.06	
127	106	30067	103	3.47409	7.8688E+01	+/- 6.248E+00	7.79	1.56	7.94	
128	107	30068	1	5.826-4	1.5740E+06	+/- 5.059E+04	0.00	3.21	3.21	
129	108	30068	2	5.632-4	1.5142E+06	+/- 4.964E+04	0.00	3.28	3.28	
130	109	30068	29067g	14.0045	6.0341E-02	+/- 2.309E-02	16.29	34.62	38.26	
131	110	33075	16	13.6014	2.3975E+01	+/- 5.761E+00	5.35	23.43	24.03	
132	111	39089	16	13.701	1.3348E+01	+/- 4.244E+00	1.12	31.78	31.80	
133	112	40000	40089g	13.7593	4.2003E+00	+/- 1.481E+00	0.91	35.24	35.25	
134	113	40090	16	13.7593	8.1639E+00	+/- 2.878E+00	0.91	35.24	35.25	
135	114	41093	1	0.17795	1.1533E+06	+/- 4.636E+03	0.00	0.40	0.40	
136	115	41093	2	0.15569	1.0138E+06	+/- 4.103E+03	0.00	0.40	0.40	

137	116	41093	102	1.191-3	5.4037E+04	+/-	1.901E+03	3.11	1.64	3.52
138	117	41093	41093m	2.36031	9.7256E+03	+/-	2.687E+02	2.69	0.65	2.76
139	118	41093	41092m	11.233	3.2412E+01	+/-	4.418E+00	0.83	13.61	13.63
140	119	41093	41094g	1.191-3	1.3495E+04	+/-	4.747E+02	3.11	1.64	3.52
141	120	41093	41094m	1.191-3	4.0542E+04	+/-	1.426E+03	3.11	1.64	3.52
142	121	42000	41092m	5.23087	5.7104E+01	+/-	2.391E+00	3.87	1.60	4.19
143	122	42092	41092m	5.23087	3.9301E+02	+/-	1.646E+01	3.87	1.60	4.19
144	123	45103	45103m	1.92247	5.2652E+04	+/-	2.128E+03	4.00	0.57	4.04
145	124	47109	1	6.103-4	2.0643E+06	+/-	1.033E+05	0.00	5.00	5.00
146	125	47109	2	0.0544	1.0137E+06	+/-	1.028E+04	0.00	1.01	1.01
147	126	47109	47110n	5.468-6	4.2336E+04	+/-	5.137E+03	6.38	10.32	12.13
148	127	48000	1	0.12012	1.2181E+06	+/-	7.179E+03	0.00	0.59	0.59
149	128	48000	2	0.1085	1.0144E+06	+/-	5.801E+03	0.00	0.57	0.57
150	129	48000	101	2.260-4	9.8817E+04	+/-	1.899E+03	0.00	1.92	1.92
151	130	49000	49114m	7.069-5	1.3154E+04	+/-	8.934E+02	5.71	3.68	6.79
152	131	49113	1	0.01242	1.4211E+06	+/-	1.916E+04	0.00	1.35	1.35
153	132	49113	2	0.13991	9.2192E+05	+/-	4.106E+03	0.00	0.45	0.45
154	133	49113	102	6.921-5	4.4504E+05	+/-	1.673E+04	0.00	3.76	3.76
155	134	49113	49113m	2.49157	1.0163E+04	+/-	1.411E+02	1.20	0.70	1.39
156	135	49113	49114g	4.503-5	1.3990E+05	+/-	1.002E+04	6.01	3.89	7.16
157	136	49113	49114m	7.034-5	3.0514E+05	+/-	2.082E+04	5.73	3.70	6.82
158	137	49115	1	0.05724	1.2244E+06	+/-	4.169E+04	0.00	3.40	3.40
159	138	49115	2	0.2067	8.5072E+05	+/-	3.585E+03	0.00	0.42	0.42
160	139	49115	102	3.829-5	3.1153E+05	+/-	3.992E+04	0.00	12.82	12.82
161	140	49115	49115m	2.41785	1.2405E+04	+/-	2.265E+02	1.69	0.68	1.83
162	141	49115	49114m	11.5793	6.6001E+01	+/-	1.086E+01	5.07	15.66	16.46
163	142	49115	49116g	3.819-5	6.5205E+04	+/-	9.597E+03	7.16	12.86	14.72
164	143	49115	49116m	3.831-5	2.4633E+05	+/-	3.610E+04	7.13	12.80	14.66
165	144	53127	16	11.4621	8.5670E+01	+/-	1.280E+01	3.05	14.63	14.94
166	145	57139	1	0.17412	1.0620E+06	+/-	6.166E+03	0.00	0.58	0.58
167	146	57139	2	0.12152	9.3036E+05	+/-	4.512E+03	0.00	0.48	0.48
168	147	57139	102	7.399-5	3.6619E+04	+/-	3.320E+03	5.91	6.88	9.07
169	148	59141	16	11.5926	8.0178E+01	+/-	1.567E+01	11.25	15.98	19.54
170	149	64000	1	3.529-3	2.1273E+06	+/-	1.480E+04	0.00	0.70	0.70
171	150	64000	2	0.01117	1.3615E+06	+/-	7.462E+03	0.00	0.55	0.55
172	151	64000	101	1.079-4	5.5985E+05	+/-	1.003E+04	0.00	1.79	1.79
173	152	69169	16	10.3828	2.5562E+02	+/-	2.720E+01	3.23	10.14	10.64
174	153	69169	17	15.55	5.1082E-03	+/-	5.203E-03	19.34	100.00	101.85
175	154	73181	1	9.793-4	2.5545E+06	+/-	4.540E+04	0.00	1.78	1.78
176	155	73181	2	7.818-3	1.4705E+06	+/-	1.387E+04	0.00	0.94	0.94
177	156	73181	102	6.568-5	8.6103E+05	+/-	5.571E+04	4.82	4.31	6.47
178	157	74186	1	1.890-5	8.6573E+06	+/-	6.763E+05	0.00	7.81	7.81
179	158	74186	2	1.891-5	7.4974E+06	+/-	5.867E+05	0.00	7.83	7.83
180	159	74186	102	1.873-5	9.7364E+05	+/-	9.893E+04	4.30	9.21	10.16
181	160	79197	1	8.647-4	2.7866E+06	+/-	1.483E+05	0.00	5.32	5.32
182	161	79197	2	6.889-3	1.6696E+06	+/-	1.933E+04	0.00	1.16	1.16
183	162	79197	16	10.541	2.2522E+02	+/-	2.424E+01	1.87	10.60	10.76
184	163	79197	102	4.984-6	9.6408E+05	+/-	1.327E+05	1.97	13.63	13.77
185	164	80199	80199m	2.75456	1.8377E+04	+/-	6.836E+02	3.65	0.73	3.72
186	165	82204	82204m	4.87557	1.0268E+03	+/-	4.994E+01	4.63	1.48	4.86
187	166	83209	16	9.92658	4.1235E+02	+/-	3.875E+01	4.13	8.44	9.40
188	167	83209	17	15.55	1.5484E-02	+/-	1.557E-02	10.58	100.00	100.56
189	168	90232	1	0.01728	2.1028E+06	+/-	1.974E+04	0.00	0.94	0.94
190	169	90232	2	0.018	1.5996E+06	+/-	1.184E+04	0.00	0.74	0.74
191	170	90232	18	2.68777	5.0834E+03	+/-	2.972E+02	5.79	0.78	5.85
192	171	90232	102	1.121-4	2.7626E+05	+/-	1.153E+04	1.75	3.79	4.18
193	172	92235	1	6.606-3	2.3348E+06	+/-	1.446E+04	0.00	0.62	0.62
194	173	92235	18	2.755-4	6.9504E+05	+/-	7.803E+03	0.40	1.05	1.12
195	174	92238	1	2.663-3	2.5792E+06	+/-	4.677E+04	0.00	1.81	1.81
196	175	92238	2	4.674-3	1.8859E+06	+/-	2.469E+04	0.00	1.31	1.31
197	176	92238	16	8.19787	8.9097E+02	+/-	6.314E+01	5.09	4.93	7.09
198	177	92238	18	2.49892	2.0170E+04	+/-	2.885E+02	1.22	0.74	1.43
199	178	92238	102	3.706-5	4.4339E+05	+/-	2.658E+04	0.91	5.93	6.00
200	179	93237	1	4.922-3	2.3899E+06	+/-	1.609E+04	0.00	0.67	0.67
201	180	93237	2	0.02958	1.2738E+06	+/-	5.379E+03	0.00	0.42	0.42
202	181	93237	18	1.61709	1.0625E+05	+/-	2.102E+03	1.90	0.54	1.98
203	182	94239	1	3.880-3	2.4993E+06	+/-	2.026E+04	0.00	0.81	0.81
204	183	94239	2	0.03184	1.2359E+06	+/-	5.288E+03	0.00	0.43	0.43
205	184	94239	18	2.043-4	7.0306E+05	+/-	1.888E+04	2.22	1.50	2.69

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206      185 95241       1  6.614-3 2.3778E+06 +/- 2.005E+04     0.00   0.84   0.84
207      186 95241       2  0.05338 1.2767E+06 +/- 5.173E+03     0.00   0.41   0.41
208      187 95241      18  1.84239 1.0387E+05 +/- 2.741E+03     2.57   0.59   2.64
209
210
```