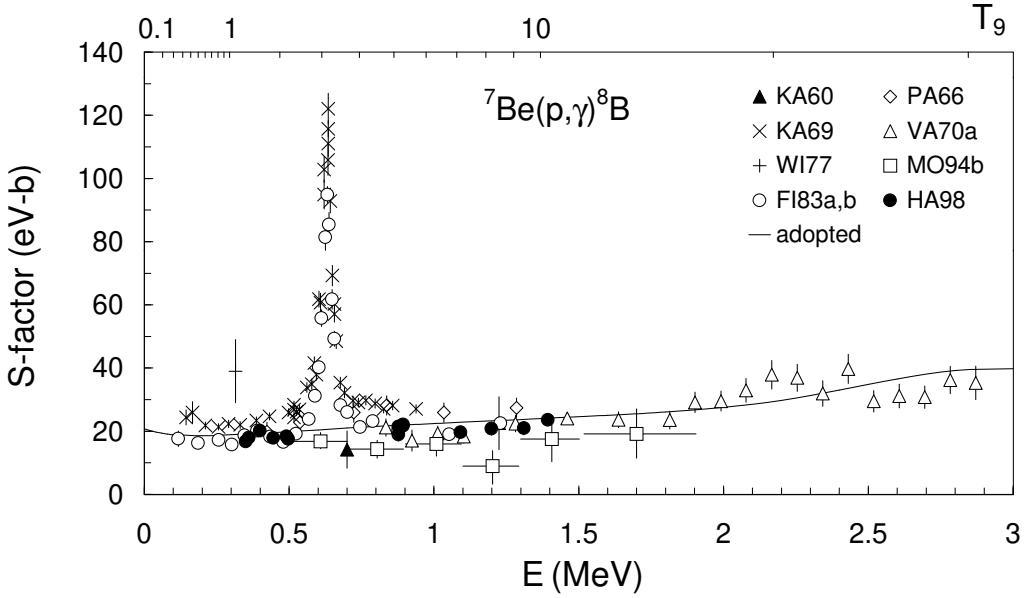
Reaction : ^{7}Be(p,γ)^{8}B

Experimental data from KA60, PA66, KA69, VA70a, FI83a, FI83b and HA98 are available. All data sets, with the exception of the HA98 ones, are renormalized to the ^{7}Li(d,p)^{8}Li cross section, for which the recommended value of ST96a, obtained by analysing previous experiments also, is adopted. However, the error quoted by ST96a is increased to take into account uncertainties in the absolute data normalization, $\sigma(^{7}\mathrm{Li(d,p)}^{8}\mathrm{Li}) = 146 \pm 11$ mb. The data point from WI77 is omitted. Data obtained in Coulomb break-up experiments [MO94b] are also disregarded (see Sect. 2.2.2). For the calculation of the rates, we adopt the energy dependence predicted by the microscopic calculation of DE94a with a renormalization factor of 0.69 ± 0.07 obtained from a χ^2 analysis of the experimental data. The recommended S-factor at zero energy is then $S_0 = 21 \pm 2$ eV b. This value is slightly larger than the value recommended by AD98 ($S_0 = 19^{+4}_{-2}$ eV b) who exclude the KA69 data. For $E \leq 0.1$ MeV, the S-factor can be well approximated by the expression $S(E) = 21 - 18\,E + 38\,E^2$ (E in MeV, $S(E)$ in eV b). For the $E_r = 633 \pm 10$ keV resonance, we adopt a strength $\omega\gamma = 0.011 \pm 0.002$ eV following the renormalization of the original values of KA69 and FI83 (see above). The differences between the present rates and the CA88 ones relate to the influence of the new value for the ^{7}Li(d,p)^{8}Li cross section, and to the use of a different low energy extrapolation.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.003	1.43	1.60	1.77	-24	0.9	0.06	6.17	6.90	7.64	-6	0.8	0.7	2.82	3.17	3.54	0	0.8
0.004	7.90	8.83	9.78	-22	0.9	0.07	2.06	2.31	2.55	-5	0.8	0.8	4.40	4.98	5.59	0	0.8
0.005	7.00	7.83	8.67	-20	0.9	0.08	5.56	6.22	6.88	-5	0.8	0.9	6.46	7.36	8.31	0	0.8
0.006	2.13	2.38	2.64	-18	0.9	0.09	1.28	1.43	1.59	-4	0.8	1	0.91	1.04	1.18	1	0.8
0.007	3.25	3.64	4.03	-17	0.8	0.1	2.63	2.94	3.25	-4	0.8	1.25	1.79	2.07	2.37	1	0.8
0.008	3.07	3.44	3.80	-16	0.8	0.11	4.92	5.49	6.08	-4	0.8	1.5	2.97	3.45	3.96	1	0.8
0.009	2.05	2.29	2.53	-15	0.8	0.12	8.54	9.54	10.6	-4	0.8	1.75	4.38	5.10	5.85	1	0.9
0.01	1.05	1.17	1.29	-15	0.8	0.13	1.40	1.56	1.73	-3	0.8	2	5.95	6.91	7.91	1	0.9
0.011	4.35	4.86	5.38	-14	0.8	0.14	2.18	2.43	2.69	-3	0.8	2.5	0.94	1.08	1.23	2	0.9
0.012	1.53	1.71	1.90	-13	0.8	0.15	3.25	3.64	4.03	-3	0.8	3	1.29	1.49	1.69	2	0.9
0.013	4.73	5.29	5.85	-13	0.8	0.16	4.70	5.25	5.81	-3	0.8	3.5	1.66	1.90	2.15	2	0.9
0.014	1.30	1.46	1.61	-12	0.8	0.18	0.90	1.00	1.11	-2	0.8	4	2.04	2.32	2.62	2	1.0
0.015	3.28	3.66	4.05	-12	0.8	0.2	1.56	1.75	1.93	-2	0.8	5	2.82	3.20	3.58	2	1.0
0.016	7.60	8.50	9.40	-12	0.8	0.25	4.73	5.29	5.85	-2	0.8	6	3.65	4.12	4.60	2	1.1
0.018	3.37	3.76	4.16	-11	0.8	0.3	1.09	1.22	1.35	-1	0.8	7	4.53	5.11	5.69	2	1.1
0.02	1.21	1.35	1.50	-10	0.8	0.35	2.13	2.38	2.63	-1	0.8	8	5.45	6.13	6.82	2	1.2
0.025	1.56	1.74	1.93	-9	0.8	0.4	3.67	4.10	4.54	-1	0.8	9	6.42	7.21	8.00	2	1.3
0.03	1.09	1.22	1.35	-8	0.8	0.45	5.82	6.50	7.20	-1	0.8	10	7.41	8.32	9.23	2	1.4
0.04	1.84	2.05	2.27	-7	0.8	0.5	8.64	9.66	10.7	-1	0.8						
0.05	1.35	1.51	1.67	-6	0.8	0.6	1.66	1.86	2.07	0	0.8						