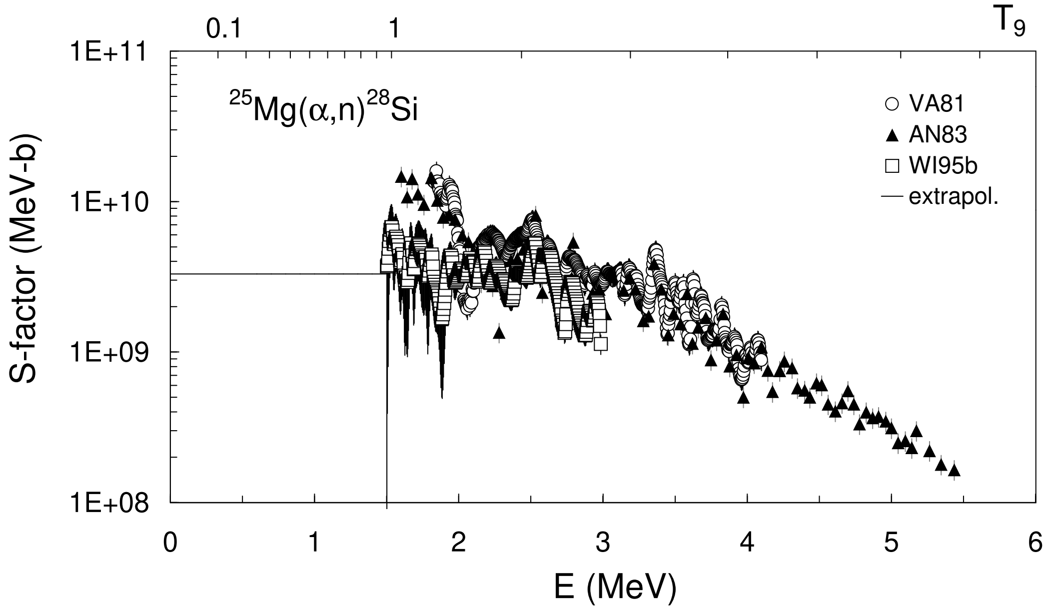
Reaction : $^{25}Mg(\alpha,n)^{28}Si$

The experimental data of VA81, AN83 and WI95b are adopted. They cover the energy ranges between 1.8 and 4.1 MeV, 1.6 and 5.4 MeV, and 0.86 and 3 MeV, respectively. The AN83 and VA81 data are disregarded in the WI95b data range: (1) Below 2.2 MeV, the background contribution from the target backing [mainly from $^{13}C(\alpha,n)^{16}O$] indeed dominates the neutron yield in the AN83 and VA81 experiments. (2) In contrast, WI95b minimize the background by using gold plated backings. In addition, this background is measured and substracted. Below 1.5 MeV, we adopt a constant S-factor of 3.3×10^9 MeV b, which is an average of the measured S-factors between 1.5 and 3 MeV. The lower limit of the rates is obtained by assuming that the S-factor is the sum of the tails of the measured resonances. The upper limit of the rates results from the selection of the value $S = 10^{11}$ MeV b, which is the WI95b highest measured S-factor at $E < 1.29$ MeV. Above $T_9 = 2$, HF rates are used as explained in Sect. 2.5. The differences with the CA88 rates are most likely due to the new WI95b data.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.14	0.005	3.37	120	-25	0.2	0.5	0.07	4.26	139	-10	0.3	2.5	1.34	1.52	1.85	2	0.8
0.15	0.005	3.34	119	-24	0.2	0.6	0.12	2.05	58.1	-8	0.3	3	0.91	1.03	1.25	3	0.8
0.16	0.004	2.72	97.0	-23	0.2	0.7	0.66	4.63	100	-7	0.3	3.5	3.97	4.49	5.42	3	0.8
0.18	0.002	1.12	39.6	-21	0.2	0.8	1.49	6.14	93.0	-6	0.4	4	1.28	1.44	1.73	4	0.8
0.2	0.005	2.74	96.6	-20	0.2	0.9	1.83	5.42	55.8	-5	0.4	5	7.35	8.23	9.80	4	0.7
0.25	0.003	1.67	58.0	-17	0.2	1	1.48	3.48	24.5	-4	0.5	6	2.56	2.84	3.36	5	0.7
0.3	0.006	2.22	76.2	-15	0.2	1.25	0.83	1.37	4.31	-2	0.6	7	6.53	7.21	8.43	5	0.7
0.35	0.004	1.09	37.4	-13	0.2	1.5	1.59	2.15	4.01	-1	0.7	8	1.36	1.49	1.72	6	0.7
0.4	0.01	2.71	92.5	-12	0.2	1.75	1.56	1.90	2.66	0	0.7	9	2.45	2.67	3.06	6	0.7
0.45	0.03	4.10	138	-11	0.3	2	0.98	1.12	1.37	1	0.8	10	3.98	4.31	4.89	6	0.7