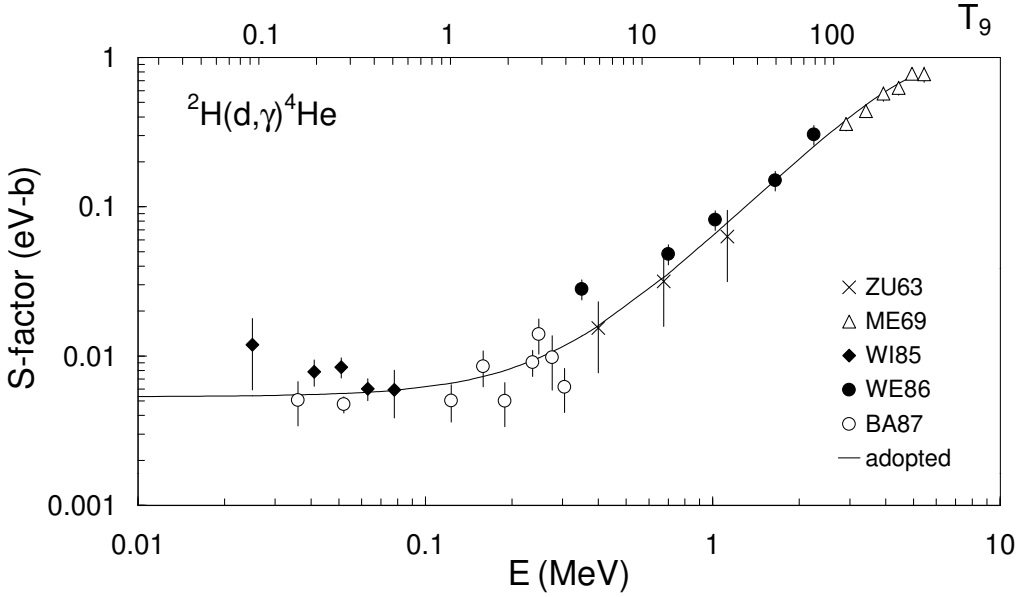
Reaction : ^{2}H(d,γ)^{4}He

The non-resonant data are from ZU63, ME69, and WE86, and the relative data from WI85 and BA87. They often assume pure E2 transitions, which may be a cause of systematic error. The ^{2}H(d,γ)^{4}He cross sections of ME69 are obtained from those reported for the inverse reaction. The ratios σ(d,γ)/σ(d,p) of WI85 and BA87 are normalized here using the fit $S(E) = 56 + 0.203\,E$ (E in keV, $S(E)$ in keV b) for the S-factor of ^{2}H(d,p)^{3}H. For $T_9 < 0.2$, the recommended reaction rates are up to 10% lower than the rate given in CA88, probably due to a different σ(d,p) for the normalization of the WI85 and BA87 data. The differences at high temperatures come from the fact that our numerical integration of Eq. (1) is more accurate than the analytical approach of CA88.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.001	1.19	1.34	1.50	-15	0.9	0.04	1.26	1.45	1.65	-3	0.9	0.5	3.23	4.14	5.04	-1	1.2
0.002	4.90	5.55	6.20	-12	0.9	0.05	2.65	3.07	3.49	-3	0.9	0.6	4.14	5.34	6.55	-1	1.2
0.003	2.69	3.04	3.40	-10	0.9	0.06	4.64	5.40	6.17	-3	0.9	0.7	5.08	6.62	8.15	-1	1.3
0.004	3.30	3.74	4.19	-9	0.9	0.07	7.23	8.45	9.67	-3	0.9	0.8	6.07	7.95	9.83	-1	1.4
0.005	1.95	2.21	2.47	-8	0.9	0.08	1.04	1.22	1.40	-2	0.9	0.9	7.11	9.35	11.6	-1	1.4
0.006	7.50	8.52	9.53	-8	0.9	0.09	1.41	1.66	1.90	-2	0.9	1	0.82	1.08	1.34	0	1.5
0.007	2.19	2.49	2.79	-7	0.9	0.1	1.82	2.15	2.48	-2	0.9	1.25	1.12	1.48	1.84	0	1.7
0.008	5.28	6.01	6.73	-7	0.9	0.11	2.28	2.70	3.12	-2	0.9	1.5	1.47	1.93	2.39	0	1.8
0.009	1.11	1.26	1.42	-6	0.9	0.12	2.78	3.31	3.83	-2	0.9	1.75	1.86	2.43	3.00	0	2.0
0.01	2.10	2.39	2.68	-6	0.9	0.13	3.32	3.95	4.59	-2	0.9	2	2.29	2.97	3.66	0	2.1
0.011	3.65	4.16	4.67	-6	0.9	0.14	3.89	4.64	5.40	-2	0.9	2.5	3.28	4.20	5.12	0	2.3
0.012	5.96	6.79	7.63	-6	0.9	0.15	4.48	5.37	6.26	-2	1.0	3	4.45	5.61	6.77	0	2.4
0.013	0.92	1.05	1.18	-5	0.9	0.16	5.10	6.13	7.16	-2	1.0	3.5	5.76	7.17	8.59	0	2.5
0.014	1.37	1.56	1.75	-5	0.9	0.18	6.41	7.74	9.07	-2	1.0	4	7.21	8.88	10.6	0	2.6
0.015	1.95	2.23	2.50	-5	0.9	0.2	7.80	9.46	11.1	-2	1.0	5	1.05	1.27	1.49	1	2.6
0.016	2.70	3.08	3.47	-5	0.9	0.25	1.15	1.41	1.67	-1	1.0	6	1.41	1.68	1.96	1	2.7
0.018	4.78	5.47	6.16	-5	0.9	0.3	1.54	1.91	2.28	-1	1.0	7	1.81	2.13	2.46	1	2.7
0.02	7.81	8.95	10.1	-5	0.9	0.35	1.95	2.44	2.93	-1	1.1	8	2.23	2.60	2.97	1	2.6
0.025	2.07	2.38	2.69	-4	0.9	0.4	2.37	2.99	3.61	-1	1.1	9	2.66	3.08	3.50	1	2.6
0.03	4.34	4.99	5.65	-4	0.9	0.45	2.80	3.55	4.31	-1	1.1	10	3.10	3.56	4.02	1	2.5