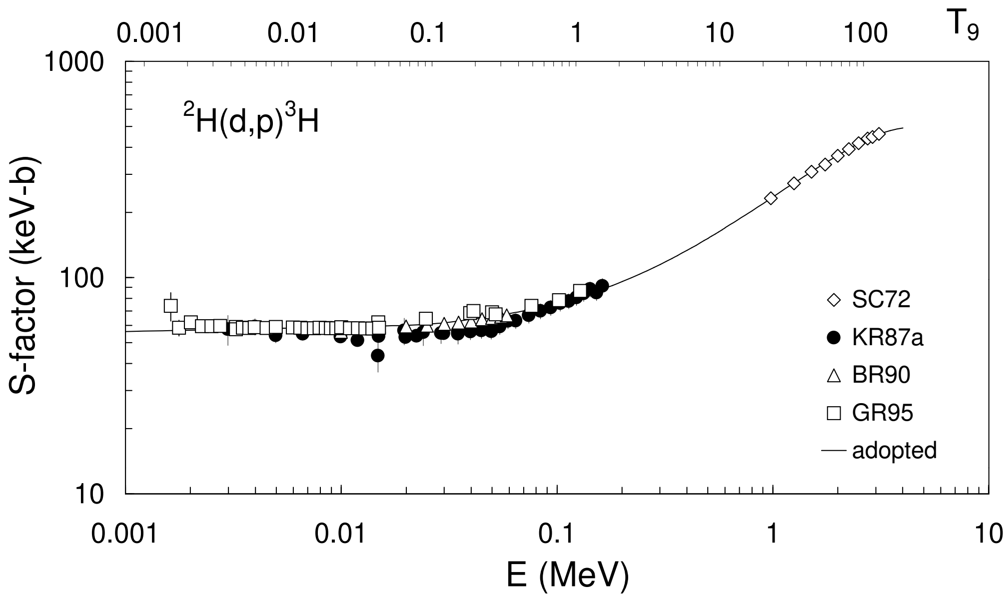
Reaction : ^{2}H(d,p)^{3}H

The non-resonant data of SC72, KR87a, BR90, and GR95 are used. The lowest energy data point of GR95 that might be affected by screening effects has been corrected ($U_e = 10$ eV). An additional 3% error, due to the assumption of a polynomial description of the S-factor curve, is added to the experimental errors. The S-factor is fitted by $S(E) = \mathcal{S}_0 + \mathcal{S}_1 E + \mathcal{S}_2 E^2$, with $\mathcal{S}_0 = 0.056$ MeV b, $\mathcal{S}_1 = 0.204$ b, $\mathcal{S}_2 = -0.0251$ MeV^{-1} b. At low temperatures ($T_9 < 0.4$), the present rate is slightly larger than the rate of CA88, based on $\mathcal{S}_0 = 0.053$ MeV b, $\mathcal{S}_1 = 0.019$ b, and $\mathcal{S}_2 = 1.92$ MeV^{-1} b. The large difference in $\mathcal{S}_2$ yields an important reduction of our rates with respect to the CA88 ones above $T_9 \approx 0.7$. The CA88 values have been obtained from a fit to the KR87a data [see the ^{2}H(d,n)^{3}He reaction]. The present reaction rates agree within a few percent with the BO92 compilation.



T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio	T_9	low	adopt	high	exp	ratio
0.001	1.35	1.41	1.47	-8	1.1	0.04	1.53	1.60	1.66	4	1.1	0.5	4.71	4.89	5.07	6	1.0
0.002	5.60	5.85	6.09	-5	1.1	0.05	3.26	3.40	3.54	4	1.1	0.6	6.01	6.22	6.45	6	0.9
0.003	3.08	3.21	3.35	-3	1.1	0.06	5.78	6.02	6.27	4	1.1	0.7	7.29	7.55	7.82	6	0.9
0.004	3.80	3.96	4.13	-2	1.1	0.07	9.10	9.48	9.86	4	1.1	0.8	8.55	8.86	9.17	6	0.8
0.005	2.25	2.34	2.44	-1	1.1	0.08	1.32	1.37	1.43	5	1.1	0.9	0.98	1.01	1.05	7	0.8
0.006	8.67	9.04	9.42	-1	1.1	0.09	1.80	1.88	1.95	5	1.1	1	1.10	1.14	1.18	7	0.7
0.007	2.54	2.65	2.76	0	1.1	0.1	2.36	2.45	2.55	5	1.1	1.25	1.40	1.44	1.49	7	0.6
0.008	6.13	6.40	6.66	0	1.1	0.11	2.97	3.09	3.22	5	1.1	1.5	1.68	1.73	1.79	7	0.6
0.009	1.29	1.35	1.40	1	1.1	0.12	3.65	3.80	3.95	5	1.1	1.75	1.94	2.01	2.07	7	0.5
0.01	2.44	2.55	2.66	1	1.1	0.13	4.38	4.56	4.74	5	1.1	2	2.20	2.27	2.35	7	0.5
0.011	4.26	4.45	4.63	1	1.1	0.14	5.16	5.37	5.59	5	1.1	2.5	2.68	2.76	2.85	7	0.4
0.012	6.97	7.27	7.57	1	1.1	0.15	5.99	6.23	6.48	5	1.1	3	3.11	3.22	3.32	7	0.3
0.013	1.08	1.13	1.17	2	1.1	0.16	6.86	7.14	7.42	5	1.1	3.5	3.52	3.64	3.75	7	0.3
0.014	1.60	1.67	1.74	2	1.1	0.18	8.72	9.07	9.42	5	1.1	4	3.90	4.03	4.16	7	0.3
0.015	2.29	2.39	2.49	2	1.1	0.2	1.07	1.11	1.16	6	1.1	5	4.59	4.74	4.89	7	0.2
0.016	3.18	3.31	3.45	2	1.1	0.25	1.61	1.67	1.74	6	1.1	6	5.19	5.36	5.53	7	0.2
0.018	5.65	5.89	6.14	2	1.1	0.3	2.19	2.28	2.36	6	1.1	7	5.72	5.91	6.10	7	0.1
0.02	9.27	9.66	10.1	2	1.1	0.35	2.80	2.91	3.02	6	1.1	8	6.20	6.40	6.61	7	0.1
0.025	2.48	2.59	2.69	3	1.1	0.4	3.43	3.56	3.69	6	1.0	9	6.62	6.84	7.06	7	0.1
0.03	5.22	5.44	5.67	3	1.1	0.45	4.07	4.22	4.38	6	1.0	10	7.00	7.22	7.45	7	0.1