^{10}B(d,n) 1956Ce73,1952Jo10,1956Gr54

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu	NP A880, 88 (2012)	1-Jan-2011

1952Jo10: ^{10}B(d,n).
1955Be81: ^{10}B(d,n).
1956Ce73: ^{10}B(d,n).
1956Gr54: ^{10}B(d,n).
1957Gr50: ^{10}B(d,n).
1960Ne17: ^{10}B(d,nγ), measured not abstracted; deduced nuclear properties.
1961Ja12: ^{11}C; measured not abstracted; deduced nuclear properties.
1962Fr06: ^{10}B(d,nγ), measured not abstracted; deduced nuclear properties.
1965Si12: ^{10}B(d,N) E=1.1-3.2 MeV, measured σ(E,E_N,θ), Q. ^{11}C deduced L.
1966Go12: ^{10}B(d,nγ) E=4.2 MeV, measured e+e- coincidences (θ). ^{11}C levels deduced J, π.
1967Di01: ^{10}B(d,N) E=3.2 to 9 MeV, measured σ(E,E_N,θ).
1968Br26: ^{10}B(d,N_0) E=1.20 to 2.90 MeV, measured N-polarization (E,θ), σ(E,θ).
1969Ch04: ^{10}B(d,N) E=0.5-0.8 MeV, measured $\sigma(\theta)$. ^{11}C level deduced L_P, S.
1970Bo34: ^{10}B(d,N) E=5.8 MeV, measured σ(E_N,θ). ^{10}B(^{3}He,d) E=11.0 MeV, measured σ(E_d,θ). ^{11}C deduced L, J, π, S.
1970Fo05,1971Co07: ^{10}B(^{3}He,d) E=21 MeV, measured σ(E_d,θ). ^{11}C deduced levels, L_P, J, π, S.
1971Mu18: ^{10}B(d,N) E=11.8 MeV, measured σ(E_N,θ). ^{11}C deduced absolute S.
1972Me06: ^{10}B(d,N) E=2.6-4.0 MeV, measured P(E_N,θ). DWBA comparison.
1972Th14: ^{10}B(d,nγ) E=4-4.8 MeV, θ_N=0 degree, measured σ(E,E_N,E_γ,θ(nγ)). Deduced stripping reduced width amplitude.
1980Ce02: ^{10}B(d,N) E=75-960 keV, measured thick target yield.
1981An16: ^{10}B(d,N) E=7-16 MeV, measured σ(E), thick target yields.
1981Ca06: ^{10}B(d,N) E=7-16 MeV, measured σ(E), thick target yields.
1981Ca06: ^{10}B(d,N) E=1.8 MeV, measured E_γ, I_γ, nγ-coin, DSA. ^{11}C levels deduced t, B(λ).
1982Bo33: ^{10}B(d,N) E=3 MeV, measured residuals specific yields.
1982Ce02: ^{10}B(d,nγ) E=48, 170 keV, measured thick target yield. Deduced σ(E), astrophysical S(E).
1989St09: ^{10}B(d,N) E=13.5 MeV, measured thick target yields.
1990Mi11: ^{10}B(d,N) E=0.5-6 MeV, measured absolute σ(E).
2001Ho23: ^{10}B(d,N) E=24-111 keV, measured σ, S-factor.
2008St10: ^{10}B(d,n)^{11}C, E<160 keV; measured σ, astrophysical S-factors, angular distributions.
See (1990Aj01) for spectroscopic factors.
In many cases the energies seem unreliable.

^{11}C Levels

E(level)	J^π	L	Comments
0	3/2$^-$	1	
1940 *50*	1/2$^-$	(1)	E(level): see (1959Aj76) review. Also see 1860 keV *60* (1956Ce73) and 1850 keV *60* (1952Jo10).
4260 *21*	5/2$^-$	1	E(level): see (1959Aj76) review. Also see 4280 keV *50* (1956Ce73), 4230 keV *60* (1952Jo10), 4240 keV *30* (1956Gr54), 4330 keV *50* (1960Ne17), and Neilson Rev. Sci. Inst. 30 (1959) 963.
4749 *17*	3/2$^-$	1	E(level): see (1959Aj76) review. Also see 4750 keV *30* from Sample et al. Can. J. Phys. 33 (1955) 828, 4740 keV *40* from Ajzenberg 1955 (private communication from Bent), 4770 keV *50* (1956Ce73), 4770 keV *60* (1952Jo10), 4730 keV *30* (1956Gr54) and 4760 keV *50* (1960Ne17 and Neilson Rev. Sci. Inst. 30 (1959) 963.
6340	1/2$^+$	2	E(level): from (1961Ja12).
6487 *14*	7/2$^-$	1	E(level): see (1959Aj76) review. Also see 6520 keV *50* Sample et al. Can. J. Phys. 33 (1955) 828, 6520 keV *40* from Ajzenberg 1955 (private communication from Bent), 6500 keV *30* (1955Be81), 6400 keV *40* (1956Ce73), 6400 keV *40* (1952Jo10), 6476 keV *20* (1960Ne17) and Neilson, Rev. Sci. Inst. 30 (1959) 963.
6910 *20*	5/2$^+$		E(level): from (1961Ja12). (1961Ja12) claim this superceeds (1956Ce73) and (1952Jo10), based mainly on comparison with neutron tof vs excitation of the 4.771 MeV level In ^{9}Be(d,n)^{10}B. Also see 7010 keV *60*

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^{10}B(d,n) 1956Ce73,1952Jo10,1956Gr54 (continued)

^{11}C Levels (continued)

E(level)	J$^\pi$	$T_{1/2}$	L	Comments
				from Ajzenberg 1955 (private communication from Bent), 6780 keV *50* (1956Ce73) and 6770 keV *40* (1952Jo10).
7400 *40*	3/2$^+$		2	E(level): see (1959Aj76) review. Also see Sample et al. Can. J. Phys. 33 (1955) 828, 7410 keV *50* (1956Ce73) and 7390 keV *20* (1952Jo10).
8103 *8*	3/2$^-$		1	E(level): from (1955Ma76); also see 8090 keV *40* (1956Ce73) and 8080 keV *20* (1952Jo10).
8426 *8*	5/2$^-$		1	E(level): from (1955Ma76); also see 8400 keV *40* (1956Ce73) and 8390 keV *20* (1952Jo10).
8656 *8*	5/2$^+$,7/2$^+$		0	E(level): from (1955Ma76). Also see 8620 keV *40* (1956Ce73),8660 keV *20* (1963Ov02). And 8620 keV *20* (1952Jo10). Prior to (1963Ov02) the 8656 and 8702 keV states had been unresolved. Whilst the absolute uncertainty In the energies is 20 keV for ^{11}C*(8.66 and 8.70) the relative uncertainty In level spacing is 4 keV.
8702 *20*	5/2$^+$,7/2$^+$		0	E(level): from (1963Ov02).
8970? *20*				E(level): from (1957Gr50); also see 8980 keV *30* (1956Ce73) and E 8970 keV *20* (1952Jo10).
9130? *20*				E(level): from (1952Jo10).
9280? *30*				E(level): from (1956Ce73).
9690? *30*				E(level): from (1956Ce73).
10.09×10^3 *2*				E(level): from (1957Gr50) and (1956Ce73).
10.68×10^3		200 keV	(0,2)	E(level): Γ: from (1963Ov02).
10890? *20*				E(level): from (1956Ce73) and (1957Gr50).
11260? *20*				E(level): from (1956Ce73).
11520? *20*				E(level): from (1956Ce73).

γ(^{11}C)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Comments
1.67×10^3	<2	6487	7/2$^-$	4749	3/2$^-$	
2.0×10^3	100	1940	1/2$^-$	0	3/2$^-$	branching ratios from (1962Fr06).
2110 *50*	12	6487	7/2$^-$	4260	5/2$^-$	Eγ and branching ratios from (1962Fr06).
2.75×10^3 *10*	20	4749	3/2$^-$	1940	1/2$^-$	Eγ and branching ratios from (1962Fr06).
4340 *50*	100	4260	5/2$^-$	0	3/2$^-$	branching ratios from (1962Fr06).
4.48×10^3	<2	6487	7/2$^-$	1940	1/2$^-$	
4750 *30*	80	4749	3/2$^-$	0	3/2$^-$	E_γ: see Sample et al. Can. J. Phys. 33 (1955) 828.
5350 *50*		7400	3/2$^+$	1940	1/2$^-$	E_γ: from Sample et al. Can. J. Phys. 33 (1955) 828.
6520 *40*	88	6487	7/2$^-$	0	3/2$^-$	E_γ: see Sample et al. Can. J. Phys. 33 (1955) 828. Also 6440 keV *80* from (1962Fr06).
7010 *60*	100	6910	5/2$^+$	0	3/2$^-$	E_γ: see Ajzenberg 1955 (private communication from Bent). Also (1962Fr06). Also see 6800 keV *200* In (1962Fr06).

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Level Scheme

Intensities: Type not specified