^{9}Be(d,nγ),(d,n) 1974Aj01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu and J. L. Godwin, et al.	NP A745 155 (2004)	31-Mar-2004

1965Si12: ^{9}Be(d,n) E=1.1-3.2 MeV, measured σ(E,E_N,θ), Q. ^{10}B deduced L.
1967Br29: ^{9}Be(d,N γ) E=600 keV, measured σ(E_N,E_γ), I_γ. ^{10}B deduced transitions.
1967Fi01: ^{9}Be(d,n) E=3.0,3.5,5.5 MeV, measured σ(E_N,θ). ^{10}B deduced levels, π, L, S.
1967Gl03: ^{9}Be(d,n) E=1.7,1.8 MeV, measured σ(E_N).
1968Fi09: ^{9}Be(d,n) E=1.7 MeV, measured Doppler-shift attenuation. ^{10}B levels deduced $T_{1/2}$.
1969Ga06: ^{9}Be(d,N γ) E=600 keV, measured σ(E_N,E_γ). ^{10}B level deduced γ-branching.
1969Ro14: ^{9}Be(d,n) E=4 MeV, measured σ(E_N,θ). ^{10}B levels deduced L_P.
1970Mi04: ^{9}Be(d,n) E=0.9-2.48 MeV, measured σ(E,θ), P(E,θ).
1970Po06: ^{9}Be(d,n) E=400 keV, measured σ(E_N). ^{10}B deduced No 2.86 MeV state.
1970Sr01,1972Sr02,1972Sr04,1973Sr04: ^{9}Be(d,n) E=650 keV, measured σ(θ). ^{10}B levels deduced L_P, J, π.
1973Pa14: ^{9}Be(d,n) E=7,12,15,16 MeV, measured σ(E,E_N,θ). ^{10}B deduced levels, J, π, L, S.
1973Sz07: ^{9}Be(d,N γ) E=300-750 keV, measured σ(E,E_γ).
1974Ka34: ^{9}Be(d,n) E=600 keV, measured E_N(THETA). Deduced Q. ^{10}B deduced levels.
1975Az02: ^{9}Be(d,n) E=13.9,15.25 MeV, measured σ(E_N,θ). Deduced coupling constants.
1975Sr01: ^{9}Be(d,n), measured neutron yields to levels In ^{10}B.
1976Ma43: ^{9}Be(d,n) E=83.7 MeV, measured relative neutron yields.
1977Lo10,1981Lo13: ^{9}Be(d,n) E=3,5,6,7,9,12,14.8,23 MeV, measured σ(E_N), thick target yields.
1982Ce02: ^{9}Be(d,N γ) E=48,170 keV, measured thick target yield. Deduced σ(E), astrophysical S(E).
1983Ta17: ^{9}Be(d,n) E=13 MeV, measured σ(θ), σ(E_N).
1984Ol06: ^{9}Be(d,n) E=5 MeV, measured σ(E_N). Deduced σ(E).
1986Ba40: ^{9}Be(d,n) E=3-8 MeV, measured σ(E_N), σ(θ). Deduced total neutron absorption σ. DWBA analysis.
1986Br13: ^{9}Be(d,n) E=9.4-13.3 MeV, measured neutron spectra, thick target neutron yield.
1986Gu19: ^{9}Be(d,n) E=13.6 MeV, measured σ(E_N).
1985Sm08,1986Sm11: ^{9}Be(d,n) E=7 MeV, measured neutron yields vs. E_N, θ_N. Deduced angular dependence anisotropy.
1987Sc11: ^{9}Be(d,n) E=40 MeV, measured neutron yields, σ(θ_N), angle-energy corrections. Tof.
1988Ka30: ^{9}Be(d,n) E=15,18 MeV, measured σ(θ). Deduced residual nuclei vertex constants. ^{10}B deduced resonance widths.
1992Mi03: ^{9}Be(d,n) E=24.8 MeV, measured σ(θ). ^{10}B deduced levels, spectroscopic factors, L.
1993Me10: ^{9}Be(d,n) E=2.6-7 MeV, measured thick target neutron spectra.
1995Vu01: ^{9}Be(d,n) E=1.1,2 MeV, measured neutron spectra, σ(θ_N,E_N). Deduced σ(θ), σ for (d,n) reaction. Deduced possible mechanisms.
1998Be31: ^{9}Be(d,n) E=20.2 MeV, measured neutrons σ(E,θ). Deduced neutron fluence for irridation facility.
1998Ol04: ^{9}Be(d,n) E=5-10 MeV, measured σ(E_N,θ).
1999Ab38: ^{9}Be(d,n) E=1.86-9.96 MeV, measured σ. Deduced neutron yield for thick targets. ^{9}Be(d,n) E=0.5-1.54 MeV, calculated σ.
1999Jo03: ^{9}Be(d,n) E=9.8 MeV, measured neutron spectra.
2000Fe08: ^{9}Be(d,n) E=7-15 MeV, analyzed σ(θ). Deduced optical model parameters, asymptotic normalization coefficient, uniqueness factor.
2001Ho23: ^{9}Be(d,n) E=24-111 keV, measured σ, S-factor.
For other spectroscopic factors see (1974Aj01,1965Bu10,1967Fi01).

^{10}B Levels

E(level)	$T_{1/2}$	L	S_{rel} from (1973Pa14).	Comments
0		1	1.0	
720 *10*		1	1.97	E(level): from (1973Pa14).
1.74×10^3 *1*		1	1.36	E(level): from (1973Pa14).
2.15×10^3 *1*	1.7 ps *3*	1	0.41	Γ: from T_{mean}=2.0 ps *6* (1969Al17) and 2.7 fs *+5−4* (1968Fi09).

Continued on next page (footnotes at end of table)

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^{10}B Levels (continued)

E(level)	$T_{1/2}$	L	S_{rel} from (1973Pa14).	Comments
				E(level): from (1973Pa14).
3.58×10^{3} *1*	101 fs *10*	1	0.10	E(level): from (1973Pa14). Γ: from T_{mean}=115 fs *40* (1966Wa10) and T_{mean}=150 fs *15* (1968Fi09: with ^{10}B(p,p′)).
4.77×10^{3} *1*				E(level): from (1973Pa14).
5110 *10*		0	0.14	E(level): from weighted average of E=5110 keV *20* (1965Bu10) and E=5110 keV *12* (1973Pa14).
5170 *14*	<56 fs			E(level): from (1973Pa14). Unresolved E_x=5164 keV level. Γ: from T_{mean}<80 fs (1966Wa10).
5.18×10^{3}				E(level): from (1973Pa14). Unresolved.
5930 *10*		1	0.49	E(level): from weighted average of E=5.90 MeV *8* (1965Bu10) and E=5.93 MeV *1* (1973Pa14).
6030 *12*				E(level): from (1973Pa14). Unresolved.
6140 *10*		(2)		E(level): from (1973Pa14). Unresolved. Also see (1965Bu10) who report a L=2 state At 6100 keV *80*.
6570 *10*		(3)		E(level): from weighted average of E=6.50 MeV *5* (1965Bu10) and E=6.57 MeV *1* (1973Pa14).
6890 *15*		(1)		E(level): from (1973Pa14). Unresolved. Also see (1965Bu10) who report a L=0 state At 6950 keV *30*.
7000 *12*		(1)		E(level): from (1973Pa14). Unresolved. Also see (1965Bu10) who report a L=0 state At 6950 keV *30*.
7480 *15*				E(level): from weighted average of E=7.50 MeV *5* (1965Bu10) and E=7480 keV *15* (1973Pa14).
7563 *15*				E(level): from weighted average of E=7.60 MeV *5* (1965Bu10) and E=7560 keV *25* (1973Pa14).
7.85×10^{3}? *5*				E(level): from (1965Bu10).
8.07×10^{3}? *5*				E(level): from (1965Bu10).
8.12×10^{3}? *5*				E(level): from (1965Bu10).

γ(^{10}B)

E_i(level)	E_γ	I_γ	E_f	Comments
720	716.6 *10*	100	0	E_γ: from (1949Ra02).
1.74×10^{3}	1022 *2*	100	720	E_γ: from (1949Ra02). Branch to g.s. is not observed (limit<2%).
2.15×10^{3}	413.5 *10*	51	1.74×10^{3}	E_γ: branching ratios: from (1949Ra02).
	1433 *5*	27	720	
	2152 *15*	22	0	
3.58×10^{3}	1430	11 *2*	2.15×10^{3}	E_γ: from (1963Wa17,1964Wa05). Branching ratios from (1969Ga06).
	2872 *15*	70 *7*	720	
	3583 *13*	19 *4*	0	
5170	3028 *15*	65 *2*	2.15×10^{3}	E_γ: branching ratios: from (1963Wa17,1964Wa05).
	4461 *13*	29.5 *20*	720	
	5159 *16*	5.5 *7*	0	

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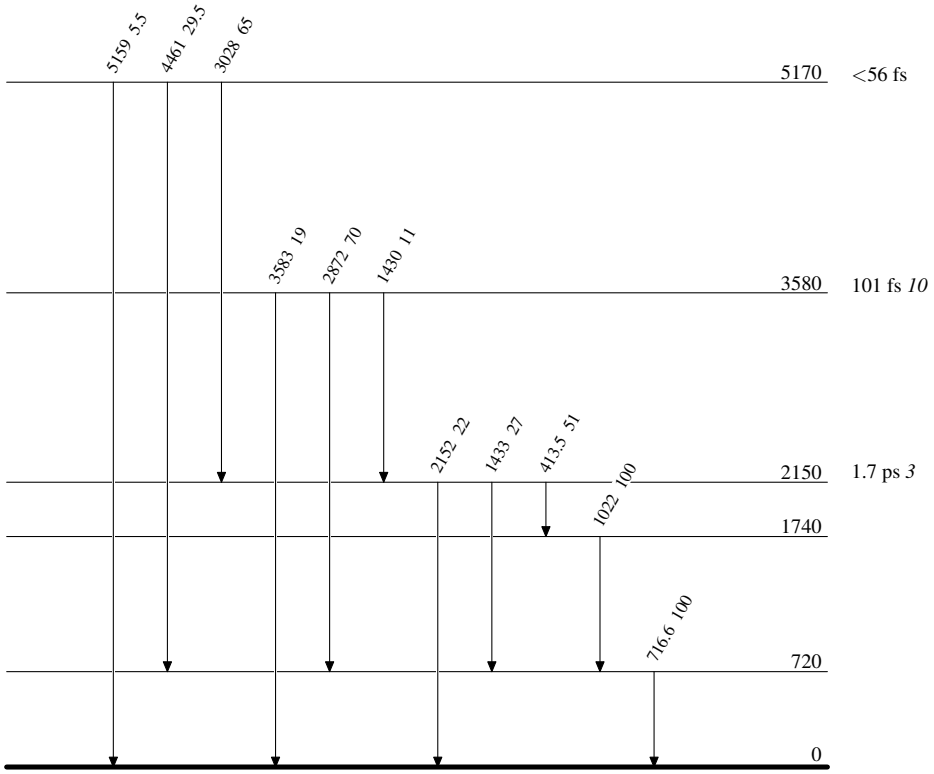
Level Scheme

Intensities: % photon branching from each level



$^{10}_{5}B_{5}$