

${}^9\text{Be}(\text{p,p}),(\text{p,p}')$ 1991Di03,2004Ti06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu, J. L. Godwin, et al.		NP A745 155 (2004)	31-Mar-2004
<p>1967Sa13: ${}^9\text{Be}(\text{p,p}), (\text{p,p}')$ E=46 MeV, analyzed $\sigma(\theta)$. 1968Si07: ${}^9\text{Be}(\text{p,p})$ E=2-2.1 MeV, measured $\sigma(\text{E}_p, \theta)$ for elastic scattering. 1969An27: ${}^9\text{Be}(\text{pol. p,P})$ E=1-3 MeV, measured polarization(E). 1969Mo29: ${}^9\text{Be}(\text{p,p})$ E=0.8-1.8 MeV, measured $\sigma(\text{E}, \theta)$. 1969Si20: ${}^9\text{Be}(\text{p,p})$ E=2.06-2.10 MeV, measured $\sigma(\text{E})$. 1970Co06: ${}^9\text{Be}(\text{p,p})$ E=1.99-2.10 MeV, measured $\sigma(\text{E})$. 1970Lo03: ${}^9\text{Be}(\text{p,p})$ $\text{E}_p=3.0-12.0$ MeV, measured polarization P(E,θ). Deduced optical-model parameters. 1970Si12: ${}^9\text{Be}(\text{p,p})$ E=2-2.1 MeV, measured $\sigma(\text{E}, \theta)$. 1971Go33: ${}^9\text{Be}(\text{p,p})$ E=1.97-2.18 MeV, measured $\sigma(\text{E})$. 1971In05: ${}^9\text{Be}(\text{p,p})$ E=180 MeV, analyzed $\sigma(\theta)$. Deduced optical model parameters. 1971Ma13: ${}^9\text{Be}(\text{p,p})$ $\text{E}_p=49.75$ MeV, measured $\sigma(\theta), \text{P}(\theta)$. 1971Va34: ${}^9\text{Be}(\text{p,p}), (\text{p,p}')$ E=6.36-6.48 MeV, measured $\sigma(\text{E}, \text{E}_p, \theta)$. Deduced reaction mechanism. 1972Vo20: ${}^9\text{Be}(\text{p,p})$ E=1000 MeV, measured polarization(θ). 1972Ya06: ${}^9\text{Be}(\text{p,p}), (\text{p,p}')$ E=4-6 MeV, measured $\sigma(\text{E}, \theta)$. 1973Ma59: ${}^9\text{Be}(\text{p,p}), (\text{pol. p,P})$ E=1.95-2.8 MeV, measured $\sigma(\text{E}, \theta), \text{P}_p(\text{THETA})$. 1973Ro24: ${}^9\text{Be}(\text{pol. p,P})$ E=0.9-2.7 MeV, measured analyzing power (θ, E). Deduced phase shifts for E=0.8-1.6 MeV. Deduced channel spin, S-d mixing. 1973Vo02: ${}^9\text{Be}(\text{P}, \text{P}_0), (\text{P}, \text{P}_2)$, measured $\sigma(\theta)$, E=13.0, 14.0, 15.0, 21.35, 30.3 MeV, measured vector polarization analyzing power A(θ), E=8.0, 11.0, 12.0, 13.0, 15.0 MeV, measured $\sigma(\text{E}, \theta), \theta(\text{lab})=86.9$ degree, 120 degree, 140 degree, 160 degree, $6 < \text{E} < 15$ MeV. ${}^9\text{Be}$ deduced deformation parameter. 1974Bi14: ${}^9\text{Be}(\text{pol. p,P})$ E=25 MeV, measured depolarization parameter D(θ). 1974Va03: ${}^9\text{Be}(\text{p,p})$ E=6-7 MeV, measured $\sigma(\theta), \text{P}(\text{P})$. 1974Wi21: ${}^9\text{Be}(\text{p,p})$ E=6.5-9.5 MeV, measured $\sigma(\text{E}, \text{E}_p, \theta)$. 1977Ki04: ${}^9\text{Be}(\text{p,p})$ E=2.30-2.70 MeV, measured $\sigma(\text{E}, \theta)$. 1979Ai26: ${}^9\text{Be}(\text{p,p})$ E=1 GeV, measured $\sigma(\theta)$. ${}^9\text{Be}$ deduced nuclear density parameters, quadrupole effects. 1980Fa07: ${}^9\text{Be}(\text{p,p}), (\text{p,p}')$ E=35.2 MeV, measured $\sigma(\theta)$. Deduced optical-model parameters. ${}^9\text{Be}$ level deduced β_2. 1983Ai10: ${}^9\text{Be}(\text{p,p})$ E=2-3.8 MeV, measured absolute $\sigma(\theta), \sigma(\text{E})$. R-matrix analysis. 1983An18: ${}^9\text{Be}(\text{p,p})$ E=1 GeV, measured $\sigma(\text{E}_p, \theta=156$ degree) vs proton momentum. Deduced reaction mechanism for P-d scattering. 1985Ai16: ${}^9\text{Be}(\text{p,p})$ E=1 GeV, measured $\sigma(\theta)$. Deduced model parameters, rms matter radii. ${}^9\text{Be}$ deduced rms charge radii. 1985GIZZ: ${}^9\text{Be}(\text{pol. p,P})$ E=200 MeV, measured $\sigma(\theta)$, analyzing power vs θ. 1985Ro15: ${}^9\text{Be}(\text{pol. p,P}), (\text{pol. p,P}')$ E=220 MeV, measured $\sigma(\theta)$, analyzing power vs θ, depolarization parameter vs θ for elastic channel. DWBA analyses. 1988Ke04: ${}^9\text{Be}(\text{pol. p,P}), (\text{pol. p,P}')$ E=135 MeV, measured $\sigma(\theta)$, analyzing power. 1988La07: ${}^9\text{Be}(\text{p,p})$ E=2.3-2.7 keV, measured $\sigma(\text{E}), \sigma(\theta)$. 1989Ke03: ${}^9\text{Be}(\text{pol. p,P}), (\text{pol. p,P}')$ E=135 MeV, measured $\sigma(\theta)$, analyzing power vs θ. 1994Le18: ${}^9\text{Be}(\text{p,p})$ E=2.4-2.7 MeV, measured $\sigma(\text{E}), \theta=170.5$ degree. 1994Wr01: ${}^9\text{Be}(\text{p,p})$ E\leq2-66 MeV, measured $\sigma(\theta)$. Astrophysical S-factor.</p>				

 ${}^9\text{Be}$ Levels

E(level)	J^π	$\text{T}_{1/2}$	Comments
0.0			
1675 2		175 keV 25	E(level): Γ : see (1966La04); the low energy cutoff (threshold) affect these results. From data In (1955Go48, 1956Bo18 and 1960Sp08).
2432 3	$5/2^-$		B(E2)=49 e ² fm ⁴ 6. E(level): from weighted average of 2433 keV 5 (1951Br72) 2434 keV 5 (1956Bo18), 2432 keV 4 (1955Go48) and 2430 keV 5 (1960Sp08).

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${}^9\text{Be}(\text{p,p}),(\text{p,p}')$ 1991Di03,2004Ti06 (continued) ${}^9\text{Be}$ Levels (continued)

E(level)	J^π	$T_{1/2}$	Comments
2.78×10 ³			see (1991Di03).
3.03×10 ³ 3	3/2 ⁺ ,5/2 ⁺	250 keV 50	E(level): energy from weighted average of 3.03 MeV 3 (1956Bo19) and 3.04 MeV 5 (1960Sp08). Γ from (1960Sp08).
4.8×10 ³ 2			E(level): from (1965Ha17). Other value 5.0 MeV 3 (1956Be14).
5.59×10 ³ 10	(3/2 ⁻)	1.33 MeV 36	E(level); Γ ; J^π : from (1991Di03).
6.38×10 ³ 6	(7/2 ⁻)	1.21 MeV 23	E(level); Γ ; J^π : from (1991Di03).
6.76×10 ³ 6	(9/2 ⁺)	1.30 MeV 8	E(level): from (1956Be14). Other value 6.5 MeV 3 (1965Ha17). Γ : from weighted average of 1.33 MeV 9 (1991Di03), 1.2 MeV 2 (1965Ha17) and 1.2 MeV 3 (1962Sc12). J^π from (1991Di03). $B(E2)=24 e^2 \text{ fm}^4$ 4.
7.94×10 ³ 8		≈1 MeV	E(level): from (1956Be14). Other value 7.9 MeV 3 (1965Ha17). Γ : from (1965Ha17).
11.28×10 ³ 5	(7/2 ⁺)	1.10 MeV 23	E(level): from weighted average of 11.28 MeV 5 (1991Di03), 11.3 MeV 2 (1956Be14) and 11.2 MeV 3 (1965Ha17). Γ : from (1991Di03). Other value 1.0 MeV ≈(1965Ha17). J^π : weak assignment from (1991Di03).
13.79×10 ³	(5/2 ⁻ ,7/2 ⁻)		see (1991Di03).
14.4×10 ³ 3		≈1 MeV	E(level); Γ : from (1965Ha17).
15.10×10 ³ 5		0.35 MeV 18	Γ : from (1991Di03).
15.97×10 ³	(5/2 ⁻ ,7/2 ⁻)		see (1991Di03).
16.7×10 ³ 3			E(level): from (1965Ha17). Also see (1991Di03).
16.98×10 ³			see (1991Di03).
17.30×10 ³	(5/2 ⁻)		see (1991Di03 and 1965Ha17).
17.49×10 ³			see (1991Di03 and 1965Ha17).
18.65×10 ³ 5	(3/2 ⁺)	0.3 MeV 1	E(level); Γ ; J^π : from (1991Di03).
19.0×10 ³ ? 4			E(level): from (1965Ha17). See also (1991Di03).
19.42×10 ³ 5	(9/2 ⁺)	0.6 MeV 3	E(level); Γ ; J^π : from (1991Di03).
20.53×10 ³ 3		0.6 MeV 1	E(level); Γ : from (1991Di03).
20.8×10 ³ 1		0.68 MeV 9	E(level); Γ : from (1991Di03).
21.1×10 ³ 5			E(level): from (1965Ha17).
22.4×10 ³ 7			E(level): from (1965Ha17).