^{9}Be(e,e),(e,e′),(e,en),(e,ep) 2004Ti06

History

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

Also ^{9}Be(e,ep),(e,eα).

1966Ra29: ^{9}Be(e,e) E<230 MeV, measured σ(E). Deduced magnetic form factors. ^{9}Be deduced magnetic moment.

1967Be26: ^{9}Be(e,e), ^{9}Be(e,e′) E=340 MeV, measured σ(E,θ). ^{9}Be deduced rms charge radius, nuclear quadrupole moment.

1969Be21: ^{9}Be(e,e) E=30-60 MeV, measured σ(E,θ). ^{9}Be deduced charge radius.

1969Be50: ^{9}Be(e,e) E=0.3, 0.6, 0.7 GeV, measured σ(E,θ). Deduced elastic form factors.

1972Ja10: ^{9}Be(e,e) Q=0.15-0.7 fm^{-1}, measured absolute cross sections. ^{9}Be deduced charge radii.

1983Al04: ^{9}Be(e,e) E=200-700 MeV, analyzed form factor data. Deduced charge density, rms radius.

1991Be40: ^{9}Be(e,e) E not given, analyzed longitudinal, transverse form factors. ^{9}Be deduced single particle radial functions, virtual P-, N-decay vertex constants.

1968Cl08: ^{9}Be(e,e′) E_e=25-58 MeV, θ=105 degree-165 degree, measured $\sigma(E_e,E_{e'},\theta)$. ^{9}Be deduced levels, π, Γ.

1973Be19: ^{9}Be(e,e′) E=62-122 MeV, measured σ(E,E(e′)). ^{9}Be levels deduced form factors, radius, quadrupole moment, Γ.

1973Ku19: ^{9}Be(e,e′) E=1184 MeV, measured $\sigma(\theta)$.

1973Sl02: ^{9}Be(e,e′) E=66-106 MeV, θ=120, 154 degree, measured $\sigma(E,E_{e'},\theta)$. ^{9}Be deduced levels, nuclear quadrupole moment, form factors.

1974En01: ^{9}Be(e,e′) E=117, 122 MeV, measured $\sigma(E_{e'},\theta)$. ^{9}Be levels deduced form factors, B(EL), B(ML).

1974Na25: ^{9}Be(e,e′) E=95.8, 104.7 MeV, measured σ. ^{9}Be levels deduced form factors.

1975La23: ^{9}Be(e,e′) E=35-90 MeV, measured σ(E,θ=180 degree). ^{9}Be deduced parameters of nuclear ground-state magnetization distribution.

1978De32: ^{9}Be(e,e′) E=800-1200 MeV, measured $\sigma(\theta,E)$. Deduced internuclear nucleon effective mass, dependence on excitation energy.

1979Bu11: ^{9}Be(e,e′) E=134.7-237 MeV, measured transverse, longitudinal form factors. ^{9}Be deduced giant resonance multipolarities, T, energy-weighted sum rule. DWBA analysis.

1983Lo11: ^{9}Be(e,e′) E=100-285 MeV, measured form factors. ^{9}Be level deduced possible parity assignment.

1983Oc01: ^{9}Be(e,e′) E=200-350 MeV, measured $\sigma(\theta,E(e'))$. Deduced longitudinal response function.

1984Ar02: ^{9}Be(e,e′) E=8-24.5 GeV, measured deep inelastic σ per nucleon. Deduced mass dependence.

1984Oc01: ^{9}Be(e,e′) E=730 MeV, measured σ vs energy loss. Deduced (σ/A) In the quasifree isobar resonance regions.

1984Wo09: ^{9}Be(e,e′). ^{9}Be levels deduced B(λ), Γ_γ, Γ, spectroscopic factors.

1986Ba85: ^{9}Be(e,e′) E=1.54, 2 GeV, measured $\sigma(E(e'),\theta)$, θ=15.5 degree. Deduced pion production threshold effects.

1987Ah06: ^{9}Be(pol. e,e′) E=300 MeV, measured parity violating helicity asymmetry. Deduced weak, neutral current, nucleon model independent weak coupling constants.

1987Ku05: ^{9}Be(e,e′) E=45, 49 MeV, measured electron, proton spectra. ^{9}Be level deduced resonance energy, Γ, form factor, B(E1), B(M2). R-matrix analysis.

1991Gl02: ^{9}Be(e,e′) E=100-360 MeV, measured electron spectra, form factors. ^{9}Be deduced levels, J, π. Shell model.

1992Ku14: ^{9}Be(e,e′) E=0.818 GeV, measured $\sigma(\theta(e'),E(e'))$. Deduced quasifree peak position, features.

2002ToZW: ^{9}Be(e,e′n) E=150, 200 MeV, measured E_N, missing energy, $\sigma(\theta)$. ^{9}Be deduced resonance features.

1973Hi03: ^{9}Be(e,e′p), measured $\sigma(E_e,E_P)$.

1974Go35: ^{9}Be(e,e′p) E=801 MeV, measured Pe′-coin, $\sigma(E_P)$. ^{9}Be deduced proton detachment energies.

1978Na05: ^{9}Be(e,ep) E=700 MeV, measured $\sigma(E_P,\theta(P))$. Deduced proton spectral functions. DWIA calculations.

1975Ge12: ^{9}Be(e,e′α) E=556 MeV, measured $\sigma(EE',E_\alpha)$.

1981Ch30: ^{9}Be(e,e′α) E=105 MeV, measured $\sigma(\theta,E_\alpha)$. ^{9}Be deduced resonances, decay mechanism.

α: Be and bm values from (1991Gl02).

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^{9}Be Levels

E(level)	J^{π}	$T_{1/2}$	Comments
0.0			B(C2)=17.1 *3* and B(M3)=4.4 *3*.
1684 *7*	$1/2^{+}$	217 keV *10*	$\Gamma_{\gamma 0}$=0.30 eV *12* E(level): Γ: from (1987Ku05). Also see (1963Ng01) who report E_x=1.6 MeV *2*, and (1968Cl08) who report E_x=1.78 MeV *3* and Γ=150 keV *50*. $\Gamma_{\gamma 0}$: from (1968Cl08). Other value $\Gamma_{\gamma 0}$=4.5 eV *6* (1963Ng01). B(C1)=0.034 *3* and B(M2)=0.023 *8*, other values B(C1)=0.027 *2*, B(M2)=0.097 *17* (1987Ku05).
2.44×10^{3} *2*	$5/2^{-}$	<30 keV	$\Gamma_{\gamma 0}$=0.091 eV *10* $\Gamma_{\gamma 0}$: the M1 component gives $\Gamma_{\gamma 0}$=0.089 eV *10*, and the C2 component gives 1.89×10^{-3} eV *14*, from (1968Cl08). Other values are $\Gamma_{\gamma 0}$=0.13 eV *3* (1960Ba47), $\Gamma_{\gamma 0}$=0.12 eV *2* (1962Ed02) and $\Gamma_{\gamma 0}$=0.13 eV *2* (1968Va05). B(M1)=0.0090 *3*, B(C2)=46.0 *5* and B(M3)=0.5 *3*. Other values B(M1)=0.0089 *10* and B(C2)=41.6 *29* (1968Cl08).
3.04×10^{3} *2*	$5/2^{+}$	0.45 MeV *15*	$\Gamma_{\gamma 0}$=0.30 eV *25* E(level): Γ: from (1968Cl08). $\Gamma_{\gamma 0}$: see comment In (1979Aj01). (1968Cl08) report $\Gamma_{\gamma 0}$=0.45 eV *35*, however (1979Aj01) suggests a contribution from an unresolved M1 excitation state. B(C1)=0.029 *5*, B(M2)=0.16 *2*, B(C3)=0.9 *6* and B(M4)=58 *3*. Other value B(C1)=0.015 *13* (1968Cl08).
4.7×10^{3} *2*		0.7 MeV *3*	$(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$=2.4 eV *12*. E(level): Γ, $(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$: from (1968Cl08). Other value $(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$=0.3 eV (1968Va05).
6.4×10^{3} *1*	$7/2^{-}$	1.1 MeV *3*	$\Gamma_{\gamma 0}$=0.082 eV *35* E(level): from (1963Ng01). Γ: $\Gamma_{\gamma 0}$: from (1968Cl08). Other values Γ=2.0 MeV *5* and $\Gamma_{\gamma 0}$=0.109 eV *5* (1963Ng01). B(C2)=33 *1*. Other value B(C2)=25.6 *14* (1963Ng01).
6.76×10^{3}	$(9/2^{+})$		B(C3)=216 *5* and B(M4)=174 *16*.
11.2×10^{3} *2*	$(7/2^{+})$		B(C3)=57 *6*. E(level): from (1968Va05). J^{π}: suggested In (1991Gl02).
13.84×10^{3} *5*			E(level): from (1973Be19).
14388. *15*	$3/2^{-}$	<70 keV	$\Gamma_{\gamma 0}$=6.9 eV *5* E(level): from (1973Be19). Other 14.7 MeV *3* (1962Ed02). $\Gamma_{\gamma 0}$: from weighted average of 6.2 eV *6* (1973Be19), 10.5 eV 1.5 (1966Cl01), 18 eV *9* (1962Ed02) and 8 eV *2* (1968Va05). See comments In ^{9}Be(γ,γ′) where $\Gamma_{\gamma 0}$=6.6 eV *4* is given.
15.10×10^{3} *5*			E(level): from (1973Be19).
15.97×10^{3} *3*		≈300 keV	$(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$=3.7 eV *8*, see (1974Aj01).
16631 *15*		<70 keV	E(level): see (1974Aj01).
16961 *15*	$1/2^{-}$	<70 keV	$\Gamma_{\gamma 0}$=11.5 eV *14* E(level): $\Gamma_{\gamma 0}$: from (1973Be19). See other $\Gamma_{\gamma 0}$ value In (1966Cl01) and discussion In (1972ThZF).
17.28×10^{3}	$\leq 5/2^{-}$		$(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$=7.3 eV *13* (1973Be19).
17480 *20*	$\leq 7/2^{+}$	≈100 keV	E(level): energy from (1973Be19). $(2J_F+1)/(2J_I+1)\Gamma_{\gamma 0}$=0.40 eV *3* (1973Be19). See (1973Be19) and (1974Aj01) for unpublished values.
18.02×10^{3} *5*			E(level): energy from (1973Be19).
18.62×10^{3} *5*			E(level): energy from (1973Be19).
19.51×10^{3} *5*			E(level): energy from (1973Be19).
20.76×10^{3} *5*			E(level): energy from (1973Be19).