^{12}C(d,d) 1974Jo14,1975As06,1980Aj01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu	NP A968,71 (2017)	1-Jan-2017

1966Du08: ^{12}C(d,d) E=52 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1966Ga09: ^{12}C(d,d) E=4 MeV, measured $\sigma(\theta)$.
1966Ge03,1966Ka05: ^{12}C(d,d) E=2.0-3.7 MeV, measured $\sigma(E_p,\theta)$, $\sigma(\theta)$.
1967Au05: ^{12}C(d,d) E=63 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1968Ba17: ^{12}C(pol. d,d) E_d=12 MeV, measured vector polarization, $iT_{11}(\theta)$.
1968Co04: ^{12}C(d,d) E=4-6 MeV, measured $\sigma(E,\theta)$.
1968Co10: ^{12}C(d,d) E=3.5-7.1 MeV, measured tensor polarization (E,θ).
1968Ga13: ^{12}C(d,d) E=28 MeV, measured $\sigma(\theta)$. DWBA analysis for comparison (d,^{3}He), (d,t) cross sections, S.
1969Bo32: ^{12}C(d,d) E=0.9-2.0 MeV, measured $\sigma(E)$, $\sigma(E,E_d,\theta)$. Deduced resonance interference.
1969Co02: ^{12}C(d,d) E=5-10 MeV, measured $\sigma(E,\theta)$.
1969Ve09: ^{12}C(d,d) E=13.6 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1970Al26: ^{12}C(d,d) E=1.4-2.3 MeV, measured $\sigma(E,\theta)$.
1970Bu08: ^{12}C(vector-pol. d,d) E_d=28 MeV, measured $\sigma(\theta)$, $P(\theta)$. Deduced optical-model parameters.
1970Gu01: ^{12}C(d,d),(d,d′) E=13.7 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1971Bo39,1971Bo44: ^{12}C(pol. d,d) E=1.6-3.0 MeV, measured $iT_{11}(E,\theta)$.
1971Du09: ^{12}C(d,d),(d,d′) E_α=80 MeV, measured $\sigma(\theta)$. Deduced optical potentials. ^{12}C deduced deformation parameters.
1971Gr20: ^{12}C(pol. d,d) E=12 MeV, measured vector analyzing power $iT_{11}(\theta)$.
1971Me18: ^{12}C(d,d) E=1.6-2.7 MeV, measured $P(E,\theta)$, $\sigma(\theta)$.
1971Pu01: ^{12}C(d,d) E=0.4-0.85 MeV, measured $\sigma(E,\theta)$. Deduced optical-model parameters.
1971Wi02: ^{12}C(d,d) E=9,10,11,12 MeV, measured vector-analyzing power $A(\theta)$. Deduced optical-model parameters.
1971Wo10: ^{12}C(d,d) E=10 MeV, measured recoil ion charge distribution.
1972Ma47: ^{12}C(d,d) E=13.6 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1972Pe15,1972Pe09: ^{12}C(pol. d,d) E=20.5,25.2,29.5 MeV, measured vector polarization $iT_{11}(\theta)$, $\sigma(\theta)$. Deduced optical model parameters.
1974Ar16: ^{12}C(pol. d,d) E=20,25,30 MeV, measured P_d.
1974Bu06: ^{12}C(pol. d,d) E=15.0 MeV, measured $\sigma(\theta)$, $iT_{11}(\theta)$. Deduced optical-model parameters.
1974Da06: ^{12}C(d,d) E=2.61-2.82 MeV, measured $\sigma(E,\theta_d)$.
1974Ja25: ^{12}C(d,d) E=10-20 MeV, measured $\sigma(\theta)$.
1974Jo14: ^{12}C(d,d), measured Q values.
1974Za10: ^{12}C(d,d), measured $\sigma(E)$.
1975As06: ^{12}C(d,d),(d,d′) E=60.6,77.3,90.0 MeV, measured $\sigma(E_{d'},\theta)$. Deduced optical potentials. ^{12}C levels deduced quadrupole deformation, coupling parameters.
1975Bo58: ^{12}C(d,d) E=1.6-3.0 MeV, analyzed $\sigma(E,\theta)$.
1977Pe07: ^{12}C(pol. d,d) E=30 MeV, measured $\sigma(\theta)$, vector polarization, tensor polarization. Deduced optical model parameters.
1977Ta08: ^{12}C(d,d),(d,d′) E=9.0 MeV, measured $\sigma(\theta)$. DWBA analysis.
1979Wa24: ^{12}C(d,d),(d,d′) E=9 MeV, measured $\sigma(\theta)$.
1980Du12: ^{12}C(d,d) E=650 MeV, measured $\sigma(E,\theta)$.
1980Ma10: ^{12}C(pol. d,d) E=52 MeV, measured $iT_{11}(\theta)$. Deduced optical model parameters.
1982Ta19: ^{12}C(pol. d,d) E=9,15 MeV, analyzed $\sigma(\theta)$, vector analyzing power data.
1983Ji04: ^{12}C(d,d) E=1.5-2.1 MeV, measured $\sigma(\theta)$. Deduced intermediate structure target dependence.
1986Ho26: ^{12}C(d,d) E=600-1100 keV, measured $\sigma(E)$ vs θ.
1986Ma32: ^{12}C(pol. d,d) E=56 MeV, measured $\sigma(\theta)$, vector, tensor analyzing power vs θ. Deduced optical-model parameters.
1989Ok02: ^{12}C(pol. d,d) E=56 MeV, measured $\sigma(\theta)$. Deduced singlet deuteron final state role.
1990Sa45: ^{12}C(pol. d,d) E=56 MeV, analyzed $\sigma(\theta)$, vector, tensor analyzing power data. Deduced transition nature, reaction mechanism.
1991Be42: ^{12}C(d,d) E=52 MeV, analyzed $\sigma(\theta)$.
1993Be43: ^{12}C(d,d) E=110-120 MeV, measured $\sigma(\theta)$. Deduced optical model parameters.
1995To15: ^{12}C(pol. d,d) E=1.8 GeV, measured $iT_{11}(\theta)$, $T_{20}(\theta)$, $T_{22}(\theta)$. Deduced efficiency, figures of merit, average analyzing powers vs θ.

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1999Sa21: ^{12}C(pol. d,d) E=270 MeV, measured deuteron spin-flip probabilities vs excitation energy.
2001Ba18: ^{12}C(d,d),(d,d′) E=170 MeV, measured σ(E,θ). Deduced optical model parameters.
2002Sa51: ^{12}C(pol. d,d),(pol. d,d′) E=270 MeV, measured deuteron spectra, $\sigma(\theta)$, vector and tensor analyzing powers.
2007Ga07: ^{12}C(d,d),(d,d′) E=15.3 MeV, measured $\sigma(\theta)$, σ(E,θ). Deduced reaction mechanism features.
2009Da22: ^{12}C(d,d),(d,d′) E=52-200 MeV, analyzed elastic and inelastic scattering cross section and $\sigma(\theta)$ data. Deduced nuclear rms radii for excited states in ^{12}C.
See discussion on deformation parameters in (1975As06,1971Du09,2007Ga07).

^{12}C Levels

E(level)[#]	J$^{\pi}$	T$_{1/2}$	Comments
0			
4440.5[†] *11*			β_2=−0.48 *2* (1975As06).
7.65×10^3			
9.6×10^3			
10.3×10^3			
10.8×10^3[‡] *2*			
11.8×10^3[‡] *2*			
12.7×10^3			
15.1×10^3			
15.4×10^3?			E(level): See (1994Mo21,1995Jo06,1999Sa21,2001Sa68,2002Sa51).
18.3×10^3 *3*	2$^-$		This state is different than the 18.4 MeV state populated in α elastic scattering (1995Jo06). See also L=3 from references in (1980Aj01).
20.6×10^3[‡] *3*	(1$^+$)		J$^{\pi}$: From (1994Mo21).
21.9×10^3[‡] *3*			T$_{1/2}$: Broad.
26×10^3 *1*		2[#] MeV *1*	
≈27.×10^3[‡]			T$_{1/2}$: Broad.
29×10^3 *1*		4[#] MeV *1*	
≈35×10^3		≈5 MeV	E(level): See (1994Mo21,1995Jo06).

[†] From (1974Jo14).
[‡] From (1975As06).
[#] From references in (1980Aj01).