^{64}Ni(x,x′):inelastic scatt 1977We05,1976Vi01,1976Co04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178,41 (2021).	12-Nov-2021

Includes elastic scattering.
HI=^{7}Li, ^{12}C, ^{14}N, ^{16}O, ^{18}O, ^{32}S, ^{35}Cl, ^{36}S, ^{58}Ni, ^{64}Ni.
Measured $\sigma(\theta)$ for g.s. and first 2^+ state. Coupled-channel or DWBA analysis. Deformation parameters and optical-model parameters deduced from $\sigma(\theta)$ data.

(^{7}Li,^{7}Li′): 2020Sh22 (12-24 MeV); 1975FiZM (18-24 MeV), $\sigma(\theta)$.
(^{12}C,^{12}C): 1974Cu02 (48 MeV).
(^{14}N,^{14}N′): 1990Ga07 (700 MeV) (giant-quadrupole resonances).
(^{16}O,^{16}O′): 1977We05 (42,48 MeV), 1976Vi01 (50 MeV), 1976Co04 (56 MeV), 1971FlZX (30-52 MeV), 1995Ke01 (60,70,80,100,120 MeV), 1996Ch03 (34-37 MeV).
(^{16}O,^{16}O): 1975We04 and 1974WeZO (36-56 MeV), 1974Le20 (56 MeV), 1974Cu02 (56 MeV), 1973Ch10 (60 MeV), 1973Be13 (60 MeV).
Analysis of (α,α) data: 2002Al01, 1994Ka22, 1987Lo09 (30-50 MeV), 1986Ga01, 1980Lo01 (56 MeV), 1980Br34 (56 MeV), 1979Fe03 (56 MeV), 1978Ba10, 1976Da21 (50 MeV), 1974Ha45 (56 MeV), 1974Ge14 (56 MeV), 1973Va21 (61 MeV).
(^{18}O,^{18}O′): 1976Vi01 (50 MeV), 1975Re17 (63 MeV).
Analysis of (^{18}O,^{18}O′): 1987Va19 (63 MeV), 1981Ic02 (63 MeV), 1978Ba10, 1973Va21 (62 MeV).
(^{18}O,^{18}O): 1973Ch10 (60 MeV).
(^{32}S,^{32}S′) and (^{36}S,^{36}S′): 1987St06 (94-112 MeV).
(^{32}S,^{32}S): 2003Bb11 (82-150 MeV), 1993Na07 (68.3-92.4 MeV), 1990St01 (82-150 MeV); 1990Sa08 (88 MeV); 1990Ti05 (54.5-62.5 MeV); 1990KoZZ (82.6, 88.5 MeV); 1987St27 and 1987Ti04 (82-150 MeV). Calculated $\sigma(\theta)$: 1989Ud02.
(^{34}S,^{34}S): 1990Ti05 (53.5-63.5 MeV), measured $\sigma(\theta)$, coupled-channel calculations.
(^{35}Cl,^{35}Cl′): 1976Sc29 (7-170 MeV).
(^{36}S,^{36}S): 1990St01 (82-150 MeV).
(^{58}Ni,^{58}Ni′): 1992Ru05 (203.8 MeV).
(^{58}Ni,^{58}Ni): 1990St09 (183.3, 190.7, 204.1 MeV), $\sigma(\theta)$ and coupled-channel calculations, 1990Co37 (189.6 MeV), 1997Su22 (E=99.8, 118.8 MeV).
Additional information 1.

^{64}Ni Levels

E(level)†	J$^\pi$†	$T_{1/2}$	Comments
0	0^+		
1346	2^+		β_2=0.222 (1976Co04), 0.19 *3* (1996Ch03) in (^{16}O,^{16}O′), 0.104 (1975Re17) in (^{18}O,^{18}O′). β_2R=0.90 fm or 0.86 fm (1977We05) (^{16}O,^{16}O′); 0.87 fm (1976Vi01) ((^{16}O,^{16}O′) and (^{18}O,^{18}O′)). B(E2)↑=0.069 *5* (1996Ch03) in (^{16}O,^{16}O′).
15.4×10^3 *2*		4.2 MeV *2*	E(level),$T_{1/2}$: energy and width for a giant quadrupole resonance (1990Ga07).

† From the Adopted Levels.