^{28}Si(^{3}He,d),(d,n) 1976Dy01,1974Le29

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 113, 909 (2012)	1-Jan-2012

$J^{\pi}(^{28}Si)=0^{+}$.

Others: 1966Bu07, 1970Ca02, 1970Cu07, 1975Co16, 1975Pe05, 1976Te01, 1976Ra06, 1977Ko21, 1978Sp02, 1994Ve04.

1976Dy01: ^{28}Si(^{3}He,d): Target: SiO_2 enriched in ^{28}Si (99.58%); Projectile: ^{3}He, E=25 MeV; Enge split-pole spectrometer, an over-all resolution 40 keV (FWHM), deduced level energy, J^{π}, and spectroscopic strength.

1974Le29: ^{28}Si(^{3}He,d),(d,n), E=35.3 MeV and 13.5 MeV, respectively; measured $\sigma(\theta)$, $\sigma(E_d,\theta)$, $\sigma(E_n,\theta)$; Deduced ^{29}P levels, spectroscopic factors.

^{29}P Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$	L[†]	$(2J_f+1)S$[†#]	Comments
0	$1/2^{+}$		0	1.3	$(2J_f+1)S$: Other: 1.0 (^{3}He,d) and 1.0 (d,n) (1974Le29).
1382 *5*	$3/2^{+}$	146 fs *42*	2	3.5	$T_{1/2}$: From mean lifetime 210 fs *60* (1970Cu07). $(2J_f+1)S$: Other: 2.0 (^{3}He,d) and 2.2 (d,n) (1974Le29).
1952 *5*	$5/2^{+}$	222 fs *90*	2	0.74	$T_{1/2}$: From mean lifetime 320 fs *130* (1970Cu07). $(2J_f+1)S$: Other: 0.42 (^{3}He,d) and 0.54 (d,n) (1974Le29).
2421 *5*	$3/2^{+}$		2	0.14	
3103 *5*	$5/2^{+}$		2	0.36	$(2J_f+1)S$: Other: 0.06 (^{3}He,d) (1974Le29).
3445 *5*	$7/2^{-}$		3	3.7	$(2J_f+1)S$: Other: 1.6 (^{3}He,d) and 2.7 (d,n) (1974Le29).
4075 *5*	$7/2^{+}$		(4)	(0.15)	
4341 *5*	$3/2^{-}$		1	1.7	$(2J_f+1)S$: Other: 0.64 (^{3}He,d) and 0.76 (d,n) (1974Le29).
4754 *5*	$1/2^{+}$		0	0.06	$(2J_f+1)S$: Other: 0.02 (^{3}He,d) (1974Le29).
5738 *10*	$7/2^{-}$		3	1.3	$(2J_f+1)S$: Other: 0.66 (^{3}He,d) (1974Le29).
5967 *10*	$3/2^{+}$		2	0.2	$(2J_f+1)S$: Other: 0.04 (^{3}He,d) (1974Le29).
6317 *10*			(4)	(0.42)	J^{π}: In 1976Dy01 $J^{\pi}=(9/2^{+})$, inconsistent with earlier assignments (please see Adopted Levels).

[†] From 1976Dy01.

[‡] From Adopted Levels, except otherwise noted.

[#] Spectroscopic strength $(2J_f+1)/(2J_i+1)C^2S=(2J_f+1)S$, $C^2=1$ for the ^{28}Si(^{3}He,d)^{29}P reaction and $J_i=J^{\pi}(^{28}Si)=0$ for ^{28}Si.