

$^{64}\text{Ni}(\text{pol t,d})$ 1979F101

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

Target $J^\pi(^{64}\text{Ni g.s.})=0^+$.

1979F101: E=16 MeV polarized triton beam was produced from the tandem Van de Graaff accelerator at Los Alamos Scientific Laboratory. Reaction products were momentum-analyzed with a Q3D magnetic spectrometer (FWHM=15-18 keV). Measured $\sigma(E(t),\theta)$ and analyzing power $A_y(\theta)$, $\theta_{\text{cm}}=15^\circ-60^\circ$. Deduced levels, J, π , L-transfers, spectroscopic factors from DWBA analysis.

 ^{65}Ni Levels

Spectroscopic factor is obtained from $d\sigma/d\Omega(\text{exp})=N\times(2J+1)C^2S\times d\sigma/d\Omega(\text{DWBA})$, where J is the spin of the final level and N is the normalization factor (1970Ro22).

E(level) [†]	J^π [‡]	$(2J+1)C^2S$ [#]	Comments
0	$5/2^-$	1.20	
65	$1/2^-$	1.34	
309	$3/2^-$	0.14	
689	$3/2^-$	0.64	
1013	$9/2^+$	3.20	
1270	$1/2^-$	0.048	E(level), J^π : may not be the same as the 1274-keV [$J^\pi=(5/2^-)$] level seen in ^{65}Co β^- decay.
1416	$1/2^-$	0.18	
1556?			
1594	$7/2^-$	0.048	
1772	$(3/2^-)$	0.012	
1918	$5/2^+$	1.38	

[†] From 1979F101.

[‡] From DWBA analysis of measured analyzing powers in 1979F101.

[#] From DWBA analysis of measured $\sigma(\theta)$.