^{64}Ni(p,α) 1976Ma24,1979Sm03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Kazimierz Zuber, Balraj Singh	NDS 125, 1 (2015)	25-Jan-2015

1976Ma24 (also 1978Jo08): E(p)=14 MeV. Measured Eα, magnetic spectrograph, spectra taken at θ=16°, 30°, 60°, 90°, 120° and 140°. FWHM≈10-14 keV, enriched target. In 1978Jo08, $\sigma(\theta)$ data at E=15 MeV for 11 angles between 20° and 80° (c.m. system) are presented for 0, 2232 and 2559 levels, and L-transfers deduced from comparison with DWBA calculations.

1979Sm03: E(p)=30 MeV. Measured σ(Eα,θ), ΔE-E telescope, FWHM≈60 keV, 14 angles between 7.5° and 70°, enriched target. Angular distribution data shown for 18 groups, seven of which are compared with DWBA calculations. Uncertainty in level energies is 12 keV.

1969Co05: E=9.5, 10 MeV. Measured Eα. magnetic spectrograph. FWHM=20-30 keV. Energies of 22 groups reported up to 3103 keV with uncertainties ranging from 4 to 10 keV.

^{61}Co Levels

E(level)[†]	J$^\pi$	L[‡]	Comments
0	7/2$^-$[@]	3	
1028.2 *6*	3/2$^-$[@]		
1206.1 *8*	3/2$^-$[@]		
1285.6 *9*	9/2$^-$[@]		
1323.2 *13*	1/2$^-$[@]		
1619.3 *7*			
1646.0 *7*			
1664.5 *7*	(7/2$^-$&11/2$^-$)[@]		E(level): doublet (1979Sm03).
1889.3 *7*	7/2$^-$[@]		
1953.3 *8*			
2014.4 *11*			
2231.9 *9*	1/2$^+$[@]	0	
2303.7 *8*			
2345.5 *8*	3/2,5/2[&]		
2373.8 *11*			
2432.2 *9*			
2483.9 *10*			
2558.6 *8*	3/2$^+$[@]	(2)	
2571.6 *9*			
2642.3 *8*	7/2$^+$,9/2$^-$[&]		
2706.7 *11*			
2726.5 *10*			
2756.5 *16*			
2780.1 *10*			
2867.1 *11*			
2922.2 *10*			
2952.9 *10*			
2979.9 *10*			
2998.4 *9*			
3102.4 *16*			
3116.7 *11*	3/2$^+$,5/2$^+$[&]		
3126.3 *11*			
3151.7 *11*			
3176.0 *9*			J$^\pi$: 1/2,3/2 listed for a 3.18 MeV level in 1979Sm03 which corresponds 3176 and/or 3190 level.
3190.3 *12*			See comment for 3176 level.
3203.9 *10*			
3239.8 *11*			

Continued on next page (footnotes at end of table)

^{64}Ni(p,α) 1976Ma24,1979Sm03 (continued)

^{61}Co Levels (continued)

E(level)[†]	J$^{\pi}$	Comments
3349.4 *11*		
3357.0 *13*		
3364.4 *13*		
3384.3 *11*		$\sigma(\theta)$ distribution shown in 1979Sm03 but no conclusions drawn.
3396.9 *12*		
3409.7 *11*		
3428.4 *11*		
3445.1 *12*		
3470.8 *10*	3/2,5/2[&]	
3484.8 *11*		
3492.5 *14*		
3513.6 *11*		
3535.6 *10*	5/2,7/2[&]	
3564.7 *13*		
3575.3 *13*		
3599.6? *14*		
3609.4 *13*	1/2^{+},5/2,7/2[&]	J$^{\pi}$: for a doublet (1979Sm03).
3654.0 *11*		
3691.5 *10*		
3700.2 *15*		
3727.8 *15*		
3752.6 *12*		
3758.2? *15*		
3775.3 *11*		
3806.3 *13*		
3814.6 *15*		
3827.3 *14*		
3871.1 *12*		
3889.8 *13*		
3905.6 *12*		
3915.7 *12*		
3924.4 *13*		
3937.1 *12*		
4510[#] *12*		$\sigma(\theta)$ distribution shown in 1979Sm03 but no conclusions drawn.
4730[#] *12*	3/2,5/2[&]	
4960[#] *12*	3/2,5/2[&]	

[†] From 1976Ma24, except as noted.
[‡] From DWBA calculations for triton cluster transfers (1978Jo08).
[#] From 1979Sm03.
[@] From agreement with comparison of $\sigma(\theta)$ data with DWBA calculations (1979Sm03).
[&] From table 5 of 1979Sm03, possibly based on $\sigma(\theta)$ shape.