^{30}Si(α,d) 1976De24,1986Da18

Type	Author	History Citation	Literature Cutoff Date
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1976De24: E=40 MeV α beam was produced from the Princeton azimuthally varying field cyclotron. Target was 120 μg/cm^2 95.5% enriched ^{30}Si. Reaction products were detected using a freon-cooled ΔE-E silicon detector telescope (FWHM=60 keV). Measured σ(E$_d$,θ), θ_{cm}=20° to 55°. Deduced levels, J, π, L-transfers from DWBA analysis.

1986Da18: E=25 MeV α was produced from the Radial Ridge cyclotron at the University of Birmingham. Target was 100 μg/cm^2 self-supporting SiO_2 enriched in ^{30}Si. Reaction products were detected using four ΔE-E solid state detectors. Measured σ(E$_d$,θ), θ_{cm}=20° to 150°. Deduced levels, J, π. Comparisons with microscopic DWBA calculations using three different sets of matrix elements. Also 1987Da03 by the same group report data from (α,p) reaction.

^{32}P Levels

E(level)[†]	J$^\pi$	L[†]	dσ/dΩ(μb/sr)[#]	Comments
0[‡]	(1)$^+$[‡]			
80[‡]	(2)$^+$[‡]			
1150[‡]	(1)$^+$[‡]			
1320[‡]	(2)$^+$[‡]			
1755[‡] *50*	(3)$^+$[‡]	4	54	
2175 *50*		2	25	
2660[‡]	(2)$^+$[‡]			
2740[‡]	(1)$^+$[‡]			
3000[‡]	(3)$^+$[‡]			
3264 *50*		3	70	
3443 *50*		3	70	
4007 *50*		3	30	
4280 *50*		2,3	90	
4696 *50*			80	
5077 *50*		(1)	55	J$^\pi$: (2$^-$) proposed in 1976De24.
5509 *50*		(1)	17	
5849 *50*			50	E(level): doublet of 5835+5858.
6140 *50*			25	
6530 *50*		(3)	30	
6880 *50*		(6)	180	
7420 *50*		(6)	380	J$^\pi$: (7$^+$) proposed in 1976De24.

[†] From 1976De24, unless otherwise noted. L-transfers are extracted from DWBA analysis of measured $\sigma(\theta)$.

[‡] From 1986Da18. Spin-parities are extracted from comparisons of measured $\sigma(\theta)$ with microscopic DWBA calculations. Parethesis around spin is added by the evaluator since the J-dependence from $\sigma(\theta)$ data do not seem firm.

[#] At θ_{cm}=20° (1976De24). Uncertainty is estimated to be about +100%−50% (1976De24).