

$^{28}\text{Si}(\alpha,\text{p}), ^4\text{He}(^{28}\text{Si},\text{p})$  1984Ja14,1987Da03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 184, 29 (2022)	24-Jun-2022

**1984Ja14:** ( $\alpha,\text{p}$ ) E=26 MeV from U-120 cyclotron of the Institute of Nuclear Physics in Krakow. FWHM=150 keV. Si telescopes for  $\Delta\text{E-E}$ , measured spectra of protons, deuterons and alphas from 20-165° (lab). DWBA analysis of angular distributions. Optical model calculations.

**1987Da03:** ( $\alpha,\text{p}$ ) E=25 MeV from the University of Birmingham Radial Ridge cyclotron. Natural silicon oxide targets. Four  $\Delta\text{E-E}$  silicon telescopes used in a scattering chamber for measuring proton spectra and angular distributions. DWBA analysis.

**1979Po01:** ( $^{28}\text{Si},\text{p}$ )  $^{28}\text{Si}$  beam of E=46.8-48.2 MeV from Oxford university tandem Van de Graaff accelerator. Target was  $^4\text{He}$ -implanted Nickel foil. Si detector for light ion products. Measured E(p). Reported levels at 1270, 2230.

Others: [1984Bu04](#), [1972St27](#), [1971GI02](#), [1969Au03](#), [1961PI04](#), [1960PI02](#), [1960PI04](#), [1961Ko04](#).

 $^{31}\text{P}$  Levels

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	L#	S <sup>@</sup>	Comments
0		0	0.145	
1266		2	0.024	L: 2 ( <a href="#">1969Au03</a> ).
2234		2		L: 2 ( <a href="#">1969Au03</a> ).
3134		0	0.03	
3295		2		
3415		4		
3506		2	0.0007	
4190				E(level): only seen in <a href="#">1987Da03</a> .
4431		3	0.136	
4634		4	0.0085	
4783		2	0.033	
5343		4		
5773		4	0.007	
6233		4	0.017	
6932		2	0.69	
7214		1	0.27	
8032		2	0.69	
8840		3	0.326	
9570	(5/2 <sup>-</sup> , 7/2 <sup>+</sup> )			
10080	(1/2, 3/2 <sup>+</sup> )			
10270	(1/2 to 7/2)			
12410	(1/2 to 7/2)			
12790	(5/2, 7/2)			
13180	(7/2, 9/2)			

<sup>†</sup> From [1984Ja14](#) in the range 0-8840 inclusive, from [1987Da03](#) above 8840 keV, except as noted.

<sup>‡</sup> From DWBA analysis of measured  $\sigma(\theta)$  with j-dependence in [1987Da03](#).

<sup>#</sup> From DWBA analysis of measured  $\sigma(\theta)$  in [1984Ja14](#).

<sup>@</sup> From [1984Ja14](#).