^{30}Si(^{16}O,^{15}N) 1975Ts01,1975Ba22

History

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

1975Ts01: E=73.5 MeV from Heidelberg MP Tandem Van de Graaff accelerator. Enriched SiO_2 targets. ^{15}N detected using solid state ΔE-E detectors and tof. DWBA analysis is shown but deemed insufficient to describe the physics.

1975Ba22: E=45-60 MeV from Super FN Tandem accelerator of the Niels-Bohr Institute. Enriched to 96% ^{30}Si targets. Solid state ΔE-E telescopes for energy and angular distribution measurements. FWHM=200-300 keV. See also 1974Ba31 $\theta_{c.m.}$=7.5°−61°. DWBA analysis. See also 1974Ba31.

1973Le14: E=42 MeV from the Pittsburgh three-stage Van de Graaff accelerator. Enriched SiO targets (95.6%). Si ΔE-E telescopes in a scattering chamber for heavy ion detection and angular distributions. No-recoil DWBA calculations. Fits are poor in quality.

1983Os01: appears to be a re-analysis of 1975Ts01 despite reference indicating it reanalyzes 1976Ma51 (which has nothing to do with ^{31}P). Comparison between exact finite range DWBA and coupled channel analysis.

Others: 1973De38, 1976De03 (E=60 MeV).

^{31}P Levels

E(level)[†]	J^{π}[†]	L[‡]	C^2S[#]	Comments
0	$1/2^{(+)}$	(1)	0.56	
1270	$3/2^{(+)}$	(1+2)	0.30	
2230	$5/2^{(+)}$	(3+2)	0.06	
4430	(7/2)	(4+3)	0.35	E(level): seen in 1975Ba22 and 1973Le14.

[†] From 1975Ba22, unless otherwise noted.
[‡] Agreement between 1975Ba22 and 1975Ts01 on all values but fits are poor.
[#] From 1975Ts01.