^{32}S(α,n) 1963Ne05

1963Ne05: A 12.20-MeV α beam was produced by the Tandem Van de Graaff Accelerator at Florida State University. Targets were natural sulfur. Positrons were detected using a Ne102 plastic scintillator. Annihilation γ rays were detected using a NaI crystal. The half-life of ^{35}Ar(g.s.) was measured with a Technical Measurements Corporation 256 channel analyzer and multiscaler logic unit. Counting time per channel was determined by the sweep of a Tektronix Oscilloscope and measured using the standard frequency output of a Hewlett-Packard Electronic Counter Model 524-C. Changes in slope of the excitation curve are interpreted as excited-state thresholds due to excited levels in the product nucleus ^{35}Ar. The threshold of ^{35}Cl(p,n)^{35}Ar(g.s.) using a thick AgCl target was also measured to confirm the ^{35}Ar ground state mass.

^{35}Ar isotope discovery: ^{32}S(α,n)^{35}Ar at Purdue (1940Ki12,1941Ki01,1941El04).

^{35}Ar Levels

E(level)	$T_{1/2}$	Comments
0	1.76 s *3*	Threshold E(α)$_{lab}$=9.846 MeV *20*.
890 *50*		Threshold E(α)$_{lab}$=10.69 MeV *50*.
2030 *80*		Threshold E(α)$_{lab}$=11.97 MeV *80*.