^{28}Si(P,^{18}N):spallation 1993Bu21,2007Bu01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	R. Spitzer, J. H. Kelley	ENSDF	30-Jun-2021

1993Bu21,2007Bu01: ^{28}Si(p,^{18}N): A thick target of $NaAlSiO_4$ was bombarded by a 500 MeV proton beam to produce ^{18}N ions that were selected by the TISOL separator at TRIUMF. The resulting $^{18}N^{16}O$ molecular beam was implanted in a 10 $\mu g/cm^2$ carbon foil. After a 1.0 s collection time, the catcher foil was rotated to a position between two Si surface barrier detectors. $T_{1/2}$=620 ms *8* was measured for the activity.

The observed α-spectrum was calibrated at the E_α=1.081 and 1.409 MeV peaks (from ^{18}O*(7616,8038)) and analyzed with the R-matrix approach. The full range of the α-particle spectrum was roughly double that of (1989Zh04) and additional α-groups were observed at higher energies. In the analysis the branching ratios are normalized to 12.2% from (1989Zh04).

^{18}N Levels

E(level)	$T_{1/2}$	Comments
0	620 ms *8*	Deduced discrete $\beta^-\alpha$ decay branches and normalized to $\%\beta^-\alpha$=12.2 from (1989Zh04). $T_{1/2}$: From (2007Bu01).