## $^{40}$Ca($^{28}$Si,$^{29}$Si) 1986Vi02

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jun Chen | NDS 149, 1 (2018) | 1-Jan-2018 |

1986Vi02: E=225 MeV $^{28}$Si beam was produced from the Argonne superconducting linac. Targets were self-supporting foils of thicknesses from 150 to 250 $\mu$g/cm$^2$. Reaction products were momentum-analyzed in the Argonne split-pole magnetic spectrograph, (FWHM≈400 keV) and detected in the focal plane using a position sensitive ionization chamber. Measured $\sigma(\theta)$. DWBA analyses. Absolute cross sections accurate to 10%.

Two strong groups were observed at 3680 and 6140. The group at 3680 is from 3620 state in $^{29}$Si and mutual excitation of 1270 state in $^{29}$Si and 2470 level in $^{39}$Ca. The second group at 6140 is a composite group, with main strength due to mutual excitation of 3620 state in $^{29}$Si and 2470 level in $^{39}$Ca, and population of 6190 level in $^{29}$Si.

See 1986Vi02 for calculation of relevant spectroscopic factors for excitation of states in $^{39}$Ca and $^{29}$Si.

### $^{39}$Ca Levels

| E(level)† | J$^\pi$‡ |
|---|---|
| 0 | 3/2$^+$ |
| 2470 | 1/2$^+$ |

† As given in 1986Vi02.
‡ From Adopted Levels.