

<sup>42</sup>Ca(<sup>3</sup>He,n) 1977Bo16,1974Ev02

| Type            | Author                    | History | Citation         | Literature Cutoff Date |
|-----------------|---------------------------|---------|------------------|------------------------|
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Target <sup>42</sup>Ca  $J^\pi=0^+$ .

**1977Bo16:** E=13 MeV <sup>3</sup>He beam produced from the E-N Van de Graaff accelerator and time-of-flight (tof) facility at the Hahn-Meitner- Institute. Targets of 400  $\mu\text{g}/\text{cm}^2$  calcium (99% enriched in <sup>42</sup>Ca) evaporated onto 0.2 mm tungsten backings. Neutrons detected in 16 detectors, FWHM=350 keV. Measured  $\sigma(E_n, \theta)$ . Deduced levels,  $J^\pi$ , L-transfers from DWBA analysis.

**1974Ev02:** E=18 MeV <sup>3</sup>He beam produced from the Munich MP tandem accelerator. Enriched <sup>42</sup>Ca target. Neutron detected by a NE213 scintillator, FWHM=220 keV at 15 MeV to 500 keV at 28 MeV. Measured  $\sigma(E_n, \theta)$ . Deduced levels,  $J^\pi$ , L-transfers from DWBA analysis.

<sup>44</sup>Ti Levels

| E(level) <sup>†</sup> | L <sup>†</sup> | d $\sigma$ /d $\Omega$ (mb/sr) <sup>‡</sup> | Comments   |
|-----------------------|----------------|---|--|
| 0                     | 0              | 1.20  | d $\sigma$ /d $\Omega$ (mb/sr): other: 1.38 at $\theta=0^\circ$ (1974Ev02).  |
| 1080 <sup>#</sup> 30  | 2              | 0.11  | d $\sigma$ /d $\Omega$ (mb/sr): At $\theta=25^\circ$ . Other: 0.11 at $\theta=20^\circ$ (1974Ev02).                  |
| 3940                  | (2)            | 0.05  | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=25^\circ$ .   |
| 4010 <sup>#</sup> 60  |                | 0.06 <sup>#</sup>                           | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=15^\circ$ .   |
| 4860 <sup>#</sup> 60  | 0              | 0.12  |  |
| 6060 <sup>#</sup> 60  |                | 0.06 <sup>#</sup>                           | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=10^\circ$ .   |
| 6560 <sup>#</sup> 60  |                | 0.14 <sup>#</sup>                           | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=10^\circ$ .   |
| 6610                  | 2              | 0.07  | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=25^\circ$ .   |
| 6810 60               | 0              | 0.08  |  |
| 7500 40               | 1              | 0.06  | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=10^\circ$ .   |
| 7700 <sup>#</sup> 30  |                | 0.13 <sup>#</sup>                           | d $\sigma$ /d $\Omega$ (mb/sr): at $\theta=5^\circ$ .  |
| 9370 <sup>#</sup> 30  | 0              | 0.33  | E(level): other: 9340 (1977Bo16).<br>d $\sigma$ /d $\Omega$ (mb/sr): other: 0.61 at $\theta=0^\circ$ (1974Ev02).     |
| 10280 30              | 0              | 0.26  |  |
| 10460 30              | 0              | 0.28  | E(level): other: 10400 60 (1974Ev02).<br>d $\sigma$ /d $\Omega$ (mb/sr): other: 0.50 at $\theta=5^\circ$ (1974Ev02). |
| 10590 30              | 0              | 0.17  |  |

<sup>†</sup> From 1977Bo16, unless otherwise stated.

<sup>‡</sup> Values are for maximum d $\sigma$ /d $\Omega$ , mostly at  $0^\circ$  except otherwise noted. Values from 1974Ev02 are given under comments.

<sup>#</sup> From 1974Ev02.