

$^{74}\text{Ge}(^3\text{He},n)$  2013Ro10

Type	Author	History	Citation	Literature Cutoff Date
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**2013Ro10:**  $E(^3\text{He})=16$  MeV. Measured neutron spectra and angular distributions by time-of-flight at Notre Dame accelerator facility. Target= $1008 \mu\text{g}/\text{cm}^2$  thick 99% enriched  $^{74}\text{Ge}$ .  $\text{BaF}_2$  detector used for neutron detection.  $\text{FWHM}\approx 300$  keV. Deduced cross sections, structure of  $^{76}\text{Se}$  ground state. DWBA analysis.

 $^{76}\text{Se}$  Levels

E(level)	$J^\pi$ <sup>‡</sup>	L	Comments
$0^\dagger$	$0^+$	$0+2^\dagger$	E(level): the ground-state pairing in $^{76}\text{Se}$ and $^{76}\text{Ge}$ appears quite similar with no evidence of pairing vibration, thus no breaking of the BCS approximation for paired protons with an upper limit of 5-7%. Measured $d\sigma/d\Omega$ (in mb/sr) for g.s.+559,2 <sup>+</sup> state: 259 13 at 6.2°, 242 13 at 7.0°, 239 15 at 7.8°, 185 16 at 8.6°, 139 14 at 10.8°, 127 13 at 11.5°, 112 15 at 12.2°, 72 11 at 12.9°, 39 14 at 16.4°, 32 13 at 21.0°.
$559^\dagger$ $4.1\times 10^3$ l	$2^+$	$0+2^\dagger$ $\geq 1$	For cross section data, see comments for g.s. E(level): this level can correspond to any of the known 12 or so levels between 4.0 and 4.2 MeV, thus not shown populated explicitly in Adopted dataset.

<sup>†</sup> The g.s. and first  $2^+$  are unresolved; L=0+2 for unresolved peak.

<sup>‡</sup> From Adopted Levels.