^{154}Sm(t,p) 1966Bj01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich	NDS 113, 2537 (2012)	1-Mar-2012

Additional information 1.

^{154}Sm(t,p), E(^{3}H)=12.0 MeV. Enriched (99.2% ^{154}Sm) target evaporated on C backing. Outgoing protons recorded using a multi-angle spectrograph having FWHM≈20 keV. Measured proton angular distributions and absolute (estimated uncertainty 25%) differential cross sections. Deduced L values.

^{156}Sm Levels

E(level)	J$^\pi$†	L	S‡#@	E(level)	J$^\pi$†	L	S‡#@	E(level)	S‡#@
0[b]	0$^+$	0	0.30	1068[c] *10*	0$^+$	0	0.02	1740 *20*	
74[b] *10*	2$^+$	2	0.15	1120 *10*			0.01	1792 *10*	
250[b] *10*	4$^+$		0.02&	1441 *10*	2$^+$	2	0.04	1851 *10*	
521[b] *10*	6$^+$		0.003	1516 *10*			0.004	1911 *10*	
810 *20*			0.002	1611 *10*			0.02[a]	1970 *20*	
878 *10*			0.01	1711 *10*				2677 *10*	0.02[a]

† From adopted values.

‡ Label=(dσ/dΩ) (mb/sr).

The absolute values of the cross sections are estimated to have uncertainties of 25% (1966Bj01).

@ The listed cross sections are center-of-mass values at the peak of the angular distribution of the outgoing protons. These values occur at $\theta_{c.m.}$=27.8° for L=0 and 5.1° for L=2. where no angle is indicated and no L value is given, the angular distribution is nearly isotropic (1966Bj01).

& Value at $\theta_{c.m.}$=12.7°, the peak of the angular distribution for this proton group.

[a] Value at $\theta_{c.m.}$=42°, with the proton angular distribution being rather broad.

[b] Band(A): K$^\pi$=0$^+$ ground-state band.

[c] Band(B): First excited K$^\pi$=0$^+$ band.

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Band(B): First excited $K^{\pi}=0^{+}$ band

0^{+} 1068

Band(A): $K^{\pi}=0^{+}$ ground-state band

6^{+} 521

4^{+} 250

2^{+} 74

0^{+} 0

$^{156}_{62}Sm_{94}$