

$^{152}\text{Sm}(p,t) E=19 \text{ MeV}$ [1972De47](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, A. A. Sonzogni		NDS 114, 435 (2013)	1-Apr-2013

See also: [1970Mc26](#), [1982IsZZ](#). For others, see [1976Ba18](#).

[1972De47](#): 20-200 $\mu\text{g}/\text{cm}^2$ thick targets of enriched Sm were prepared by deposition of the evaporated metal on carbon backings.

Triton energy spectra were recorded on nuclear emulsion plates. Triton angular distributions were taken over a range of the reaction angle, $\theta(\text{lab})$, between 10° and 85° . The absolute differential g.s. cross section for the reaction $^{152}\text{Sm}(p,t) E=19 \text{ MeV}$, at $\theta(\text{lab})=25^\circ$, was determined to be $488.52 \mu\text{b}/\text{sr}$. $Q(p,t)=-5.379 \text{ MeV}$. Angular distribution spectra are presented from which L assignments are deduced.

[1971Ta27](#): DWBA fits to angular distributions of the (p,t) reaction populating the g.s. and 1255-keV 0^+ states.

[1982IsZZ](#): present data taken at a beam energy of 65 MeV.

 ^{150}Sm Levels

E(level)	L	E(level)	L	E(level)	E(level)	L
0	0	1255 3	0	1792 4	2174 [†] 10	
332 3	(2)	1277 5		1820 4	2220 [†] 10	
738 3	0	1358 3		1833 4	2285 [†] 10	
770 3	(4)	1416 3	(2)	1926 5	2361 [†] 10	
1045 3	(2)	1445 3	(4)	1951 5	2451 [†] 10	
1070 3	(3)	1603 4		1973 [†] 10	2798 [‡] 20	
1165 5		1644 5		2005 4	2925 [‡] 20	7 [#]
1192 3	(2)	1761 [†] 10		2019 [†] 10	3015 [‡] 20	5 [#]

[†] Observed by [1970Mc26](#).

[‡] Previously reported peak at 3080 keV is resolved by [1982IsZZ](#) into three peaks at 2798, 2925 and 3015 keV, respectively.

[#] [1982IsZZ](#) assign L as a result of $\sigma(\theta)$ (DWBA analyses).