

<sup>151</sup>Sm(p,t) 1973Ga04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 185, 2 (2022)	23-Aug-2022

E=18 MeV.

1973Ga04: E(p)=18 MeV from the McMaster University FN tandem. Target enrichment=88.9%. FWHM=10 keV. Measured  $\sigma(\theta)$  at 16 angles from 6° to 80°. Absolute cross sections accurate to 20%. DWBA analysis of  $\sigma(\theta)$  data.

Other: 1978MuZZ, E=34.7 MeV. Target enrichment=99%. Data from 10° to 55° (lab system). No details are available.

$J^\pi(^{151}\text{Sm g.s.})=5/2^-$ .

<sup>149</sup>Sm Levels

Cross sections are from 1973Ga04.

E(level)	L <sup>†</sup>	Comments
0	(2)	$d\sigma/d\Omega(\mu\text{b/sr})=41$ (15°), 17 (25°).
22.5 30	0	$d\sigma/d\Omega(\mu\text{b/sr})=45$ (15°), 262 (25°).
≈286	(0)	$d\sigma/d\Omega(\mu\text{b/sr})<5$ (15°), <25 (25°).
352 3		$d\sigma/d\Omega(\mu\text{b/sr})=6$ (15°), 3 (25°).
528‡		
560 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=18$ (15°), 68 (25°).
606 3		$d\sigma/d\Omega(\mu\text{b/sr})=9$ (15°), 4 (25°).
638 3		$d\sigma/d\Omega(\mu\text{b/sr})=16$ (15°), 8 (25°).
664‡		
785 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=19$ (15°), 75 (25°).
833‡		
997 3		$d\sigma/d\Omega(\mu\text{b/sr})=4$ (15°), 4 (25°).
1124 3		$d\sigma/d\Omega(\mu\text{b/sr})=4$ (15°), 2 (25°).
1187 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=2$ (15°), 8 (25°).
1207	(0)	E(level): unresolved from a peak contributed by an impurity. $d\sigma/d\Omega(\mu\text{b/sr})<4$ (15°), <18 (25°).
1325 3		$d\sigma/d\Omega(\mu\text{b/sr})=7$ (15°), 8 (25°).
1339 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=11$ (15°), 26 (25°).
1472 3		$d\sigma/d\Omega(\mu\text{b/sr})=9$ (15°), 5 (25°).
1487 3		$d\sigma/d\Omega(\mu\text{b/sr})=4$ (15°), 8 (25°).
1548 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=8$ (15°), 10 (25°).
1558 3		$d\sigma/d\Omega(\mu\text{b/sr})=2$ (15°), 4 (25°).
1581 3		$d\sigma/d\Omega(\mu\text{b/sr})=3$ (15°), 5 (25°).
1674 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=8$ (15°), 20 (25°).
1699 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=4$ (15°), 5 (25°).
1759 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=4$ (15°), 7 (25°).
1782 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=5$ (15°), 13 (25°).
1817 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=7$ (15°), 35 (25°).
1891 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=2$ (15°), 6 (25°).
1919 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=11$ (15°), 35 (25°).
1993 3		$d\sigma/d\Omega(\mu\text{b/sr})=2$ (15°), 4 (25°).
2005 3		$d\sigma/d\Omega(\mu\text{b/sr})=5$ (15°), 4 (25°).
2061 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=2$ (15°), 7 (25°).
2099 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=5$ (15°), 10 (25°).
2116 3	0	$d\sigma/d\Omega(\mu\text{b/sr})=3$ (15°), 5 (25°).

<sup>†</sup> From comparison of measured  $\sigma(\theta)$  data with DWBA calculations.

<sup>‡</sup> Level from 1978MuZZ.