

$^{148}\text{Sm}(\alpha, ^3\text{He})$  [1987DuZX](#)

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

[1987DuZX](#):  $E(\alpha)=100$  MeV from the K500 cyclotron at NSCL. Measured  $\sigma(\theta)$ , DWBA calculations.  $\text{FWHM}\approx 200$  keV. The  $\sigma(\theta)$  data measured for each of the 250 keV bins in the range 2 MeV to 14 MeV excitation energy and DWBA fits made to these data using  $L=1, 3, 4, 6$  and  $7$ .

 $^{149}\text{Sm}$  Levels

E(level) <sup>†</sup>	L <sup>#</sup>	C <sup>2</sup> S <sup>‡</sup>
0	3	0.25
290	5	0.38
910	5+6	0.46,0.13
1410	1+5	0.76,0.38
1890	3+6	0.24,0.11

<sup>†</sup> The excitation energy range between 2 and 14 MeV contains many unresolved states of  $L=1,3,4,6,7$  as shown by  $\sigma(\theta)$  data in this region.

<sup>‡</sup> Cross sections are also listed by [1987DuZX](#).

<sup>#</sup> From comparison of  $\sigma(\theta)$  data with DWBA calculations. Active neutron orbitals are  $2f_{7/2}$  and  $2f_{5/2}$  for  $L=3$ ;  $1h_{9/2}$  for  $L=5$ ;  $1i_{13/2}$  for  $L=6$ ; and  $3p_{3/2}$  and  $3p_{1/2}$  for  $L=1$ .