^{151}Sm(n,γ) E=resonance   2006Ma18,2006MuZX,1975Ki03

		History	
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 114, 1497 (2013)	31-Aug-2013

S(n)=8257.7 *6*.

All data are from 2006Ma18, except for the 0.456-eV resonance, not included by 2006Ma18, where data are from 1975Ki03. In the energy region between 0.65 eV and 1 keV, 2006Ma18 list 525 levels, the first 14 of which are reported in the paper and are listed below. The other levels were to be published in a CERN report. 1975Ki03 list 120 resonances up to 295.7 eV with reduced neutron widths. These data are also given in the compilation 2006MuZX. The agreement between 1975Ki03 and 2006Ma18 is reasonably good, except for the 20.53 resonance where 1975Ki03 report gΓ_n=0.41 *11* meV compared with 0.097 *7* in 2006Ma18. 2006Ma18 state that the resonance shapes and the goodness of fit indicate that the resonances below 200 eV are all s wave. J$^\pi$=5/2$^-$ for ^{151}Sm, thus J$^\pi$=2$^-$ or 3$^-$ for all these resonances.

2006Ma18 resolve resonances up to about 1 keV and report α resonance integral of 3575 b *210*, an average s wave resonance spacing of 1.49 eV *7*, and a neutron strength function of 3.87×10^{-4} *33*. the maxwellian-averaged cross-section at KT=30 keV is 3.08 b *15*.

^{152}Sm Levels

E(level)[†]	L[@&]	S[‡#]	E(level)[†]	L[@&]	S[‡#]	E(level)[†]	L[@&]	S[‡#]
S(n)+0.456 *10*	100 *8*	0.019 *1*	S(n)+6.395 *2*	107.7 *10*	1.043 *27*	S(n)+16.750 *9*	98 *6*	1.30 *12*
S(n)+1.093 *1*	119.5 *6*	0.330 *5*	S(n)+10.448 *8*	115 *5*	2.12 *25*	S(n)+17.284 *8*	122 *5*	1.91 *16*
S(n)+1.704 *1*	98.4 *4*	0.139 *1*	S(n)+11.247 *6*	110 *4*	0.56 *6*	S(n)+18.393 *9*	118 *6*	0.85 *8*
S(n)+2.036 *2*	99.9 *5*	0.226 *2*	S(n)+12.781 *8*	117 *5*	0.219 *19*	S(n)+18.564 *9*	109 *6*	0.45 *4*
S(n)+4.132 *2*	95.9 *5*	0.293 *2*	S(n)+15.136 *7*	111 *5*	0.124 *9*	S(n)+20.531 *5*	124 *8*	0.097 *7*

[†] Resonance energies, in eV, are given in the lab coordinate system.

[‡] Label=gΓ_n.

[#] Reduced neutron widths in meV.

[@] Label=$\Gamma_{\gamma 0}$.

[&] Units are meV.