

¹²¹Sb(d,d'), (α,α') 1966Ba45,1967Hj04,1968St17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

(d,d'): 1966Ba45, 1967JoZY: E(d)=12 MeV, multigap spectrometer, FWHM=7-10 keV, θ=90°, 105°, 125°.

1967Hj04: E(d)=15 MeV, FWHM=30-50 keV, θ=45°, 60°.

(α,α'): 1968St17: E=42 MeV, energy resolution=80-100 keV at 55°, θ=30°-80° with 0.75° angular resolution.

¹²¹Sb Levels

E(level) [†]	Jπ [‡]	E(level) [†]	Jπ [‡]	E(level) [†]	Jπ [‡]	E(level) [†]
0.0		1382 5		2137 5		2830?
35 5		1423 5	(+)	2209 5	(-)	2920?
506 ^{#a} 5		1446 5		2254 5		3130
573 ^{#a} 5		1727 5		2275 5		3180
1024 ^{@a} 5	(+)	2075 5		2370 ^{&}	(-)	3280
1143 ^{@a} 5	(+)	2129 5	(-)	2560 ^{&}	(-)	

[†] From (d,d'): E(levels) with uncertainty of 5 keV are from 1966Ba45, 1967JoZY; other E(levels) are from 1967Hj04. Values from these authors are approximately 30 keV higher than other works.

[‡] Parity from σ(45°)/σ(60°) (1967Hj04).

[#] Unresolved doublet in (α,α') at E=545 with L=(2) (1968St17).

[@] Multiplet in (α,α') with L=(2) (1968St17).

[&] Multiplet in (α,α') of at least 5 states with L=3 and width≈450 keV. Centers of gravity and strength match those for 3⁻ state in ¹²⁰Sn and ¹²²Te (1968St17); also multiplet in (d,d') between 2370-2560 states (1967Hj04).

^a 1968St17 proposed that these excited states are the members of multiplets caused by weak coupling of odd proton to the 2⁺ state of neighboring even-even nuclei. The center of gravity and total strengths of the quadrupole multiplets match those of the neighboring ¹²⁰Sn and ¹²²Te nuclei.