^{152}Sm(α,^{3}He) 1984Li02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 170, 1 (2020)	16-Aug-2020

E(α)=40 MeV. Outgoing ^{3}He measured in magnetic spectrograph with gas counter and plastic scintillator used for energy and time-of-flight measurements; FWHM ≈ 30 keV.
Differential cross sections quoted under comments are at 30°.

^{153}Sm Levels

E(level)[†]	J$^\pi$	L[‡]	S[#]	Comments
95 *10*	11/2$^-$	5	0.13	dσ/dΩ=12 μb/sr.
196 *10*	(13/2)$^+$	6	0.71	dσ/dΩ=107 μb/sr.
261 *10*	5/2$^-$,7/2$^-$	3	0.97	dσ/dΩ=35 μb/sr.
411 *10*	(17/2)$^+$			dσ/dΩ=6 μb/sr. L: Measured $\sigma(\theta)$ is inconsistent with L=8. This suggests possible multistep excitation.
528 *10*	5/2$^-$	3	0.44	dσ/dΩ=10 μb/sr.
698 *10*	11/2$^+$,13/2$^+$	(6)	0.15	dσ/dΩ=17 μb/sr. L: Assignment tentative due to possible distortion by 1/2$^-$, 694 level.
793 *10*	(5/2)$^-$	3	0.39	dσ/dΩ=9 μb/sr.
1118 *30*	11/2$^+$,13/2$^+$	6	0.19	dσ/dΩ=18 μb/sr. L: $\sigma(\theta)$ consistent with L=3,4 or 6.
1303 *30*				dσ/dΩ=6 μb/sr.
1708 *30*	(11/2$^+$,13/2$^+$)	6	0.12	dσ/dΩ=8 μb/sr. L: L=5 cannot be ruled out.

[†] Uncertainties are from general statement of authors.
[‡] The L=6 distributions cannot be uniquely distinguished from L=5. $\sigma(\theta)$ and $\sigma(\alpha,^3\mathrm{He})/\sigma(\mathrm{d,p})$ values were used by authors to make this distinction.
[#] Calculated by 1984Li02 using a normalization factor N=64.