

$^{124}\text{Sn}(\text{p,d})$ IAR [1980Ta04](#),[1977Se01](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

[1980Ta04](#): E=55 MeV proton beam was produced from the RCNP AVF cyclotron. Target was $\approx 1\text{mg}/\text{cm}^2$ isotopically enriched Sn foil. Reaction products were momentum-analyzed with the QDMDQ-type spectrograph RAIDEN (FWHM ≈ 10 keV) and detected with a position sensitive resistive-wire proportional counter. Measured $\sigma(E_d)$. Deduced deep-hole states, widths, IAR.

[1977Se01](#): E=52 MeV proton was produced the INS synchrocyclotron. Target was self-supporting metallic foil of $8.2\text{ mg}/\text{cm}^2$ 97% enriched ^{124}Sn . Reaction products were momentum-analyzed with a broad-range magnetic spectrograph (FWHM ≈ 100 keV). Measured $\sigma(E_d)$. Deduced deep-hole states, spectroscopic factors from DWBA analysis.

 ^{123}Sn Levels

E(level) [†]	J π [#]	Γ [‡]	C ² S [@]	Comments
16943 50	9/2 ⁺	39 keV 8	0.19	Configuration= $(\nu 1g_{9/2})^{-1}$ E(level): IAS of 9/2 ⁺ g.s. of ^{123}In .
17306 50	1/2 ⁻	45 keV 7	0.062	Configuration= $(\nu 2p_{1/2})^{-1}$ E(level): IAS of 320-keV, 1/2 ⁻ state in ^{123}In .
17656 50	(3/2) ⁻	39 keV 15		Configuration= $(\nu 2p_{3/2})^{-1}$ E(level): IAS of 698-keV, (3/2) ⁻ state in ^{123}In .

[†] From [1980Ta04](#). Relative uncertainty is 5keV. They are also reported in [1977Se01](#).

[‡] From [1980Ta04](#).

[#] From Adopted Levels.

[@] DWBA calculation for ^{123}In IAS from [1977Se01](#).