

$^{124}\text{Te}(\text{p,d})$ 1982Ga18

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

$J^\pi(^{124}\text{Te g.s.})=0^+$.

1982Ga18: E=42 MeV proton beam was produced from the Michigan State University K50 Cyclotron. Target was isotopically enriched (99.5% in ^{124}Te) metallic power on a carbon backing. Reaction products were momentum-analyzed with an Enge split-pole spectrometer and detected with an E- Δ E counter telescope (FWHM \approx 30-40 keV). Measured $\sigma(E_\alpha, \theta)$ (accurate to 10%), $\theta(\text{lab})=7^\circ, 15^\circ$ and 25° . Deduced levels, J, π , L-transfers from DWBA analysis. Comparisons with available data. **1982Ga18** also report data on $^{124}\text{Te}(^3\text{He}, \alpha)$.

 ^{123}Te Levels

E(level) ‡	L †	E(level) ‡	L †	E(level) ‡	L †	E(level) ‡	L †
0.0	0	914 5	2	1515 10	2	2275 10	(4)+(2)
163 5	2	1053 10	2	1606 10	(0)+(2)	2332 10	4
251 5	5	1153 10		1708 10	2	2415 10	(4)+(2)
504 5	(4)+(2)	1239 5	4	1829 10	(0)+(2)	2469 10	(4)+(2)
597 10	(0)+(2)	1268 10	(4)+(2)	1904 10	(4)+(2)	2576 15	(4)+(2)
702 5	2	1357 5	2	2076 10	2	2615 15	
801 10	2	1448 5	2	2163 10	2	2691 15	(4)+(2)

† From DWBA analysis of the ratio of experimental cross-sections at 15° and 25° (**1982Ga18**).

‡ Uncertainties from a general statement in **1982Ga18**: 5 keV for strong peaks below 1500, 10 for others up to 2500 and 15 for others above 2500, except for a few weak peaks below 1500 for which 10 keV is estimated by the evaluator.