

$^{123}\text{Te}(\text{d,p})$ 1995Ge06,1977Li05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu		NDS 109, 1655 (2008)	1-Apr-2008

1995Ge06: E=22 MeV, Q3D spectrometer, FWHM=4 keV; enriched target 70.4%.

1977Li05: E=12 MeV, split-pole magnetic spectrograph; enriched target $\approx 100\%$ on a carbon backing; $\sigma(\theta)$ $\theta=6^\circ-70^\circ$.
 J^π of target is $1/2^+$.

 ^{124}Te Levels

Uncertainty of $(2J+1)C^2S$ is 5-25% (1977Li05).

E(level) [†]	L [@]	Relative population intensity [#]	Comments
0.0	0	309 9	$(2J+1)C^2S=0.37$ (1977Li05).
602.71 13	2	100 3	$(2J+1)C^2S=0.23$ (1977Li05).
1248.7 4		9.6 11	
1325.6 4		12.2 11	
1656.8 3	0	21 23	$(2J+1)C^2S=0.05$ (1977Li05).
1883.3 3	0	11.3 13	$(2J+1)C^2S=0.02$ (1977Li05).
1956.6 7		3.0 9	
2039.40 18	2	63 3	$(2J+1)C^2S=0.11$ (1977Li05).
2090.6 5	(2)	7.6 11	$(2J+1)C^2S=0.03$ (1977Li05).
2153.9 3	0	13.7 15	$(2J+1)C^2S=0.01$ (1977Li05).
2181.1 5		5.3 9	
2225.6 8		6.9 13	
2294.1 5		16.4 19	
2309.3 3		96.7 5	
2321.6 8		1.3×10^2 4	L=2 and $(2J+1)C^2S=0.87$ for 2320 level in 1977Li05. These could correspond to the 2321.6 or 2326.6 levels.
2326.6 5		1.6×10^2 3	
2335.5 19		18 9	
2347.1 [‡] 12		15 5	
2454.0 5	2	42 3	$(2J+1)C^2S=0.12$ (1977Li05).
2491.2 11		10 3	
2496.9 3		57 5	
2513.1 9		6.6 18	
2522.1 3		39 4	
2529.70 15	0	216 8	$(2J+1)C^2S=0.28$ (1977Li05).
2549.5 6		6.90 15	
2601.7 12	2	123 3	$(2J+1)C^2S=0.36$ (1977Li05).
2644.4 5		6.8 12	
2655.88 25		62.5 3	
2665.19 16		117 3	
2672.1 12		6.6 19	
2681.2 8		17.7 19	
2691.5 9		6.2 11	
2702.2 10		3.4 9	
2712.96 6		13.0 15	
2730.6 5		17.7 19	L=(0) and $(2J+1)C^2S=0.02$ for 2730 level in 1977Li05. These could correspond to the 2730.6 or 2738.1 levels.
2738.1 7		24 7	
2746.9 3		115 5	
2782.39 25	2	183 9	$(2J+1)C^2S=0.52$ (1977Li05).
2810.7 8		17 3	
2817.6 9		16 4	

Continued on next page (footnotes at end of table)

$^{123}\text{Te}(\text{d,p})$ [1995Ge06](#), [1977Li05](#) (continued) ^{124}Te Levels (continued)

E(level) [†]	L [@]	Relative population intensity [#]	Comments
2841.7 3	(1)	211 13	(2J+1)C ² S=0.04 (1977Li05).
2853.2 6		63 9	L=2 and (2J+1)C ² S=0.13 for 2859 level in 1977Li05 . These could correspond to the 2853.2 or 2860.0 levels.
2860.0 8		42 9	
2888.8 3		89 5	
2903.0 3		65 5	
2942.3 7		13.1 3	
2964.5 14		5.2 19	
2974.7 5		24 3	
2988.9 5		28 3	
3001.8 3		86 6	
3035.6 5		12.8 17	
3059.3 6		25 3	
3080.3 5		14.0 18	
3090.0 7		18 3	
3097.7 5		33 3	
3113.7 11		7.0 19	
3125.1 5		4×10 ¹ 4	
3139.4 5		46 3	
3149.5 7		19 3	
3169.2 7		21 3	
3181.4 7		23 3	
3206.6 6		42 3	L=2 and (2J+1)C ² S=0.30 for 3220 level in 1977Li05 . These could correspond to the 3206.6, 3231.2 or 3239.1 levels.
3231.2 7		92 7	
3239.1 8		51 5	
3260 6			
3290 6			
3335 6	2	0.17	
3390 6			
3430 6			
3478 6	2	0.17	
3530 6			

[†] From [1995Ge06](#) for E<3260; others from [1977Li05](#).[‡] Only observed in one of two spectra ([1995Ge06](#)).[#] Normalized transition to 602-keV level to be 100 ([1995Ge06](#)).[@] From [1977Li05](#).