

$^{124}\text{Te}(\text{d,p})$ 1999Ho01,1998Ho16,1969Gr24

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

1999Ho01: E=17 MeV, enriched target 90.7%, FWHM=4 keV (also 1998Ho16).

1969Gr24: E=7.5 MeV, multigap mag spect, enriched target 93.9%, Q=4344 keV 8, FWHM≈12 keV.

1964Jo12: E=14.8 MeV. FWHM=40 keV.

1967Sp09: Q=4322 keV 10.

 ^{125}Te Levels

For relative population intensity: see 1999Ho01 (below 2526 keV) and 1998Ho16 (above 2542 keV).

E(level) [†]	L ^{&}	C ² S ^a	Comments
0	0	0.42	
35.40 20	2	0.46	
145.13 11	5	0.31	
443.3 4			
462.8 3			
525.28 12			
537.74 10			
636.17 9			
641.56 19	4	0.06	
671.25 8	2	0.06	
729.05 6	2	0.04	
786.78 8	(1)+(3)	0.01	E(level): Possible doublet in 1969Gr24. C ² S: For L=(1), J=3/2.
804.61 14			J=15/2 ⁻ suggested from combined CCBA analysis in 1980Ro06.
1017.6 4			J=11/2 ⁻ suggested from combined CCBA analysis in 1980Ro06.
1053.72 9	3	0.02	J ^π : L=3 is in conflict with L=2 in (d,t) and (³ He,α).
1066.16 18			
1133.11 10	(2)	0.03	
1148.73 21			
1204 [#] 1			
1243.3 4			
1265.15 20			
1315.0 4			
1319.71 13			
1357.62 19			
1435.81 10			
1520.3 5			
1529.85 9			
1581.0 4			
1587.20 10	0	0.02	
1652.4 4			
1670.5 6			
1700.09 14	1	0.01	
1715.7 5			
1759.8 3			
1770.6 3			
1813.0 3			
1820.18 22	(3)	0.03	1969Gr24 report 1816-keV level with L=(3).
1824 1			
1863.4 5			
1888 1			
1905.2 6			

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$^{124}\text{Te}(\text{d,p})$ [1999Ho01](#),[1998Ho16](#),[1969Gr24](#) (continued) ^{125}Te Levels (continued)

E(level) [†]	L&	C ² S ^a	Comments
1918.6 8			
1929.4 5	(3)	0.01	
1956.72 15	1	0.02	
1982.3 4	(2)	0.05	J ^π : L=(2) is in conflict with L=3 in (t,d).
1994.6 4			
2009.77 22	1	0.01	
2049.14 23	1	0.06	
2061.4 4			
2079.5 3			
2112.5 3			1969Gr24 report 2105-keV level with L=(1)+(3) and C ² S=0.16 for L=(1), J=3/2.
2126.8 3			1999Ho01 suggest L>3 from the intensity ration of 15° to 30°.
2153.4 4	(0)	0.02	
2187.7 4			1969Gr24 report 2178-keV level with L=(1)+(3) and C ² S=0.01 for L=(1), J=3/2.
2206.9 5			
2223.9 [#] 5			
2250.1 4	1	0.02	
2274.2 [#] 4			
2282.6 4			
2293.7 4			
2315.6 4	1	0.05	
2332.7 3			
2351.7 3			
2375.4 3			
2382.0 3			
2391.1 3			1999Ho01 suggest high angular momentum transfer.
2412.3 3			
2419.1 3			
2426.2 6			1999Ho01 suggest high angular momentum transfer.
2439.3 3			
2450.6 3			1999Ho01 suggest high angular momentum transfer.
2465.8 3			
2479.1 3			
2488.4 3			
2495.0 4			
2521.0 4	1	0.01	
2525.7 [@] 5			
2542.0 4			
2547.2 7			
2556.8 7			
2590.4 7			
2596.0 7			
2605.5 7			
2622.6 6	(3)	0.02	
2630.5 6			
2642.4 6	(1)	0.01	
2651.3 7			
2669.7 6			
2680.2 7			
2684.8 7			
2690.1 7			
2704.6 4			
2711.6 4			
2717.3 4			
2723.1 5			
2730.2 4			
2743.1 4			

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$^{124}\text{Te}(\text{d,p})$ [1999Ho01](#),[1998Ho16](#),[1969Gr24](#) (continued) ^{125}Te Levels (continued)

E(level) [†]	L ^{&}	C ² S ^a	Comments
2748.6 3	1	0.02	
2761.5 4			
2768.1 3	1	0.02	
2773.3 4			
2784.2 4			
2804.6 4			
2816.7 7			
2832.1 5			
2840.8 5			
2852.3 5			
2860.8 5			
2868.4 7			
2874.3 8			
2881.5 8			
2888.5 4			
2900.0 6			
2910.0 5			
2927.3 7			
2932.7 7			
2938.5 7			
2950.0 7			
2965.4 7	1	0.01	
2988.6 6			
3008.2 5			
3015.1 7			
3022.6 6			
3032.0 5			
3044.9 8			
3060.2 5			
3071.0 5			
3082.3 8			
3090.9 5			
3098.3 7			
3130.1 4	1	0.01	
3143.3 4			
3151.0 8			
3169.5 5			
3189.4 12			
3201.0 6			
3210.6 6			
3218.6 11			
3235.5 10			
3259.8 7			
3272.7 12			
3297.5 10			
3329.5 9			
3334 8	1	0.01	There is a possibility that 3334-keV level in 1969Gr24 is the same level as reported in 1998Ho16 as 3330-keV level.
3386 [‡] 8			
3428 8	1	0.01	
3458 8			
3518 8			
3538 8			
3598 8	1	0.01	
3627 8			
3655 8	1	0.01	
3696 8	(2)	0.03	

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$^{124}\text{Te}(\text{d,p})$ [1999Ho01,1998Ho16,1969Gr24](#) (continued) ^{125}Te Levels (continued)

E(level) [†]	L ^{&}	C ² S ^a	Comments
3721 8	(2)	0.03	
3743 8			
3786 8			
3837 8			
3866 8			
3875 8			L=1, S=0.05 (J=1/2) for 3875+3887 peak.
3887 8			L=1, S=0.05 (J=1/2) for 3875+3887 peak.
3914 8			
3949 8			
3981 8			
4006 8			
4021 8			
4041 8	1	0.03	
4090 10			
4127 10	1	0.03	
4141 10			
4163 10	1	0.03	
4192 10	1	0.03	
4213 10			
4234 10			
4255 10			L=1, S=0.04 (J=1/2) for 4255+4270 peak.
4270 10			L=1, S=0.04 (J=1/2) for 4255+4270 peak.
4302 10			
4334 10			
4360 10			L=1, S=0.04 (J=1/2) for 4360+4377 peak.
4377 10			L=1, S=0.04 (J=1/2) for 4360+4377 peak.
4404 10			
4433 10			
4458 10			
4476 10			
4494 10			
4515 10			
4532 10			
4551 10			
4607 10			
4621 10			
4651 10			
4677 10			
4689 10			
4741 10			
4770 10			
4797 10	1	0.04	
4836 10			L=(1), S=0.06 (J=1/2) for 4836+4849 peak.
4849 10			L=(1), S=0.06 (J=1/2) for 4836+4849 peak.
4880 10			
4914 10			
4928 10	1	0.03	
4961 10			L=1, S=0.04 (J=1/2) for 4961+4977 peak.
4977 10			L=1, S=0.04 (J=1/2) for 4961+4977 peak.
5008 10			
5022 10			
5055 10	1	0.02	
5083 10			
5100 10			
5125 10			
5141 10			
5161 10	(0)	0.01	

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$^{124}\text{Te}(\text{d,p})$ [1999Ho01](#), [1998Ho16](#), [1969Gr24](#) (continued) ^{125}Te Levels (continued)

<u>E(level)[†]</u>	<u>L&</u>	<u>C²S^a</u>	<u>E(level)[†]</u>	<u>L&</u>	<u>C²S^a</u>	<u>E(level)[†]</u>	<u>E(level)[†]</u>
5189 <i>10</i>			5437 <i>10</i>			5660 <i>10</i>	5903 <i>10</i>
5201 <i>10</i>			5452 <i>10</i>			5679 <i>10</i>	5941 <i>10</i>
5248 <i>10</i>			5479 <i>10</i>	(0)	0.02	5702 <i>10</i>	5966 <i>10</i>
5291 <i>10</i>	(0)	0.01	5506 <i>10</i>			5725 <i>10</i>	6012 <i>10</i>
5314 <i>10</i>			5546 <i>10</i>			5752 <i>10</i>	6032 <i>10</i>
5329 <i>10</i>			5570 <i>10</i>			5785 <i>10</i>	6049 <i>10</i>
5375 <i>10</i>	(0)	0.01	5592 <i>10</i>			5804 <i>10</i>	6084 <i>10</i>
5390 <i>10</i>			5629 <i>10</i>			5837 <i>10</i>	6126 <i>10</i>
5406 <i>10</i>			5641 <i>10</i>			5867 <i>10</i>	

[†] From [1999Ho01](#) for levels below 2526-keV level, from [1998Ho16](#) for levels above 2542-keV and below 3330-keV and from [1969Gr24](#) for levels above 3334-keV, unless otherwise indicated. From the comparison of the energies of [1999Ho01](#) with those author's (n, γ) values, the uncertainties appear to be small by a factor of about 3. When used in Adopted Levels, the evaluators have increased the uncertainties given by [1999Ho01](#) by this factor.

[‡] Authors' table gives 3.86 MeV in [1969Gr24](#); the evaluators read this as 3386 keV from the spectrum in [1969Gr24](#).

Possibly belongs to ^{127}Te .

@ Partly belongs to ^{129}Te .

& From DWBA analysis in [1969Gr24](#). For higher excited level, L assignments are uncertain.

^a From DWBA ([1969Gr24](#)); $\Sigma((2J+1)C^2S)=0.66$ (2d5/2), 0.48 (1g7/2), 0.91 (3s1/2), 3.7 (1h11/2), 2.2 (2d3/2), 1.3 (2f7/2), 1.8 (3p3/2), 1.0 (3p1/2).