

¹²⁸Te(³He,t) 2012Pu02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar		NDS 129, 191 (2015)	28-Feb-2015

2012Pu02: E=420 MeV. Measured triton spectra using Grand Raiden magnetic spectrometer at RCNP facility. Natural Te and enriched ¹²⁸Te targets of 1.26-1.57 mg/cm² thickness were evaporated on ¹²C and natural C foils of ≈90-130 μg/cm² thickness. Measured σ(θ) from 0° to 4° (spectrometer angle settings at 0°–2.5°). FWHM=35 keV. DWBA analysis of σ(θ) data. Deduced levels, J, π, L-transfers, B(γ-t) values. Discussed double beta decay of ¹²⁸Te.

Other: 1976Be49.

All data are from 2012Pu02.

¹²⁸I Levels

E(level)	J ^π †	L	B(GT ⁻) strength	Comments
0	(1 ⁺)	0+2	0.079 8	
134 2	(2 ⁻)	1+3		E(level): strong dipole transition.
221 2	(1 ⁺)		0.021 4	
426 2	(1 ⁺)		0.020 5	
639 2	(1 ⁺)	0+2	0.057 10	
1037 2	(2 ⁻)			
1153 2	(1 ⁺)	0+2	0.084 19	
1222 2	(1 ⁺)	0+2	0.121 16	
1373 2	(1 ⁺)		0.022 11	
1437 2	(1 ⁺)		0.020 6	
1478 2	(1 ⁺)		0.018 7	
1548 2	(1 ⁺)		0.022 6	
1607 2	(1 ⁺)		0.011 8	
≈1684	(1 ⁺)		0.039 8	
1941 2	(1 ⁺)		0.043 13	
2049 2	(1 ⁺)		0.015 8	
2107 2	(1 ⁺)		0.010 6	
2175 2	(1 ⁺)		0.011 5	
2229 2	(1 ⁺)		0.018 8	
2338 2	(1 ⁺)		0.018 11	
2415 2	(1 ⁺)		0.017 10	
2477 2	(1 ⁺)		0.012 8	
2573 2	(1 ⁺)		0.046 17	
2717 2	(1 ⁺)		0.047 13	
2779 2	(1 ⁺)		0.024 12	
2856 2	(1 ⁺)		0.026 12	
2904 2	(1 ⁺)		0.026 10	
11948 2	(0 ⁺)	0		E(level): IAS of ¹²⁸ Te g.s.
≈14×10 ³				E(level): giant>resonance.
≈22×10 ³				E(level): spin-dipole resonance.

† From σ(θ) analysis.