

²³⁴U(³He, α) 1978Jo05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, J. K. Tuli, E. Browne		NDS 170, 499 (2020)	8-Oct-2020

1978Jo05: E(³He)=30 MeV. Measured E α , I α , $\sigma(40^\circ, 60^\circ)$, using Enge split-pole magnetic spectrograph at the University of Rochester MP tandem Van de Graaff accelerator. FWHM \approx 34 keV.

²³³U Levels

E(level) [‡]	J ^{π} [†]	Comments
41 5	7/2 ⁺ @	d σ /d Ω =2 μ b/sr 1 (40°), 2 μ b/sr 1 (60°).
94 5	9/2 ⁺ @	d σ /d Ω =1 μ b/sr 1 (40°), 2 μ b/sr 1 (60°).
156 4	11/2 ⁺ @	d σ /d Ω =27 μ b/sr 2 (40°), 15 μ b/sr 1 (60°).
228 5	13/2 ⁺ @	d σ /d Ω =4 μ b/sr 1 (40°), 3 μ b/sr 1 (60°).
312? 6	^a	d σ /d Ω =2 μ b/sr 1 (40°).
324?# 6	(7/2 ⁻ & 15/2 ⁺) ^b	d σ /d Ω =4 μ b/sr 1 (60°).
395 5	(11/2 ⁻) ^c	d σ /d Ω =5 μ b/sr 1 (40°), 6 μ b/sr 1 (60°).
432 4	9/2 ⁺ ^a	d σ /d Ω =26 μ b/sr 2 (40°), 30 μ b/sr 8 (60°).
521 3	15/2 ⁻ &	d σ /d Ω =89 μ b/sr 6 (40°), 54 μ b/sr 6 (60°).
700?		
748 4		d σ /d Ω =5 μ b/sr 1 (40°), 10 μ b/sr 1 (60°).
802		
865		
894		
916 3	(5/2 ⁻) ^d	d σ /d Ω =10 μ b/sr 1 (40°), 15 μ b/sr 3 (60°).
964		
1007 4		d σ /d Ω =6 μ b/sr 1 (40°), 17 μ b/sr 3 (60°).
1057 5		d σ /d Ω =14 μ b/sr 2 (40°), 8 μ b/sr 2 (60°).
1090?		
1155?		
1227?		
1263		

[†] Assignments by 1978Jo05, based on L-transfers deduced from d σ (d,t)/d σ (³He, α) ratios and angular distributions, and on comparison of measured cross sections with theoretical ones (fingerprint method). See also ²³⁴U(d,t) dataset.

[‡] Values given without uncertainties are from ²³⁴U(d,t) data in 1978Jo05. Population of these levels in (³He, α) is indicated in Fig. 2 of 1978Jo05, but no cross section data are available.

Assumed doublet.

@ 5/2[633] band member.

& 5/2[752] band member.

^a 3/2[631] band member.

^b 5/2[752] and possibly 5/2[633] band members.

^c 1/2[631] and 5/2[752] band members.

^d 5/2[503] band member. Tentative assignment.