^{235}U(p,t) 1974Fr01

History

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

J^π(^{235}U target g.s.)=7/2$^-$, ν7/2[743].

1974Fr01: E=16.5 MeV. Measured triton spectra and $\sigma(\theta)$ (at seven angles for θ(c.m.)=15° to 55°) using the Argonne FN tandem and Enge split-pole magnetic spectrograph. Q(p,t)=−3643 keV *15*.

^{233}U Levels

E(level)	J^π	L[†]	S[‡]	Comments
0.0?	5/2$^+$			J^π: from the Adopted Levels. Very weak or no population.
318.0[#] *15*	7/2$^-$	0	0.55	7/2 member of 5/2[752] band, as shown in Fig. 1 of 1974Fr01. Note that in text on page 761, 1974Fr01 suggest that 318 level is probably the 7/2 member of the K=5/2 band, 5/2[743], Coriolis mixed with the 7/2[743] state. but in authors′ Fig. 1, the band is labeled as 5/2[752]. dσ/dΩ=49 μb/sr *6* (15°,60°).
352[#] *2*	9/2$^-$	2		9/2 member of ν5/2[752] band (as shown in Fig. 1 of 1974Fr01). dσ/dΩ=7 μb/sr *2* (15°).
396				dσ/dΩ=5 μb/sr *4* (15°).
502.0[@] *15*	7/2$^-$	0	2.65	7/2[743] state. dσ/dΩ=250 μb/sr *27* (15°), 220 μb/sr *25* (60°).
567[@] *2*	9/2$^-$	2		9/2 member of 7/2[743] band, as shown in Fig. 1 of 1974Fr01. dσ/dΩ=27 μb/sr *3* (15°).
646[@] *3*	11/2$^-$	4		11/2 member of 7/2[743] band, as shown in Fig. 1 of 1974Fr01. dσ/dΩ=13.0 μb/sr *25* (15°).
819 *2*	7/2$^-$	0	0.31	dσ/dΩ=32 μb/sr *4* (15°), 22 μb/sr *3* (60°).
865 *3*				dσ/dΩ=3.0 μb/sr *5* (15°).
923 *2*	(−)	(2)		dσ/dΩ=11 μb/sr *2* (15°).
982 *2*	(−)	(2)		dσ/dΩ=15.0 μb/sr *25* (15°).
1824 *3*	7/2$^-$	0	0.40	dσ/dΩ=18 μb/sr *2* (15°), 13.5 μb/sr *20* (60°).
2021 *4*				dσ/dΩ=12 μb/sr *2* (15°).
2070 *3*	7/2$^-$	0	0.42	dσ/dΩ=11 μb/sr *2* (15°), 10 μb/sr *2* (60°).

[†] Deduced by 1974Fr01 from angular distributions and comparison with DWBA calculations.

[‡] [dσ/dΩ(exp)]/[dσ/dΩ(DWBA)] using $4s_{1/2}$ form factor and experimental cross sections at 60° (1974Fr01).

[#] Band(A): ν5/2[752]. Band assignment from Fig. 1 in 1974Fr01.

[@] Band(B): ν7/2[743]. Band assignment from Fig. 1 in 1974Fr01.

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Band(B): *ν*7/2[743]

11/2$^-$ 646

9/2$^-$ 567

7/2$^-$ 502.0

Band(A): *ν*5/2[752]

9/2$^-$ 352

7/2$^-$ 318.0