

²³⁸U(n,n')

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 127, 191 (2015)	1-Jun-2014

Additional information 1.

E=0.075-1.62 MeV; measured $\sigma(E, E(n), \theta)$	(1966Ba09)
E=0.3-1.5 MeV	(1963Sm09)
E=0.5-2 MeV	(1958Cr83)
E=0.6-2.2 MeV; measured $\sigma(E(n), \theta)$	(1979Yu01)
E=0.6-3.4 MeV; measured $\sigma(\theta)$	(1978HaYS, 1982Ha34)
E=0.7-1.5 MeV; measured $\sigma(E)$	(1983Ka38)
E=0.2-5 MeV; analyzed $\sigma(E)$	(1985Ho03)
E=0.9-2.2 MeV; measured $\sigma(\theta), \sigma(E(n))$	(1986Sh05)

²³⁸U Levels

E(level) [†]	J ^π [‡]	Comments
0.0		
45	2 ⁺	
149 2	4 ⁺	
300 15	6 ⁺	
681 3	1 ⁻	
732 3	3 ⁻	
838 5	5 ⁻	
939 5	(2,3,1)	J ^π : level probably corresponds to known 1 ⁻ level at 931.
968 6	(2,3,1)	J ^π : level probably corresponds to known 2 ⁺ level at 966.
1006 6		J ^π : level may correspond to the known 997 0 ⁺ , 3 ⁻ doublet. The authors were not aware of the 997 3 ⁻ level, discovered later. They point out that $\sigma(E)$ does not agree well with 0 ⁺ , but that a good fit is obtained for 1 ⁺ . No 1 ⁺ level is known in this energy region from other experiments.
1047 7	(2 ⁺)	E(level): the level may correspond to the known 2 ⁺ level at 1037.
1076 7	(2 ⁺)	E(level): the level may correspond to the known 2 ⁺ level at 1060.
1123 8	(1 ⁺)	
1150 8	(4 ⁺)	E(level): the level may correspond to the known 4 ⁺ level at 1129.
1190 10	(4 ⁺)	E(level): the level may correspond to the known 4 ⁺ level at 1167 or 1169.
1210 10		
1246 12		
1272 12		
1313 15		
1361 17		
1401 20		
1437 22		
1470 25		

[†] Measurements by 1966Ba09 (tof). The association of levels reported by these authors can be correlated uniquely with Adopted Levels levels only up to about the 1076 level. Above this energy the association is uncertain. The two (4⁺) peaks at 1150 and 1190 may correspond to known 4⁺ levels at 1131 and 1163 or 1168, respectively. Above this energy, any correspondence is uncertain Other measurements: 1958Cr83, 1963Sm09, 1957A134, 1959Ba21, 1959Ev82, 1975GuZF, 1971Kn03, 2009Ro21, 2006Ma07, 2004Ma35, 2004Su12.

[‡] Assignments made by 1966Ba09 from comparison of measured cross sections at $\theta=90^\circ$ with optical-model calculations. Others: 2011Mu04, 2011Ro44, 2009Mu14, 2001Na01.