^{237}Np(d,p) 1979Io01

History

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

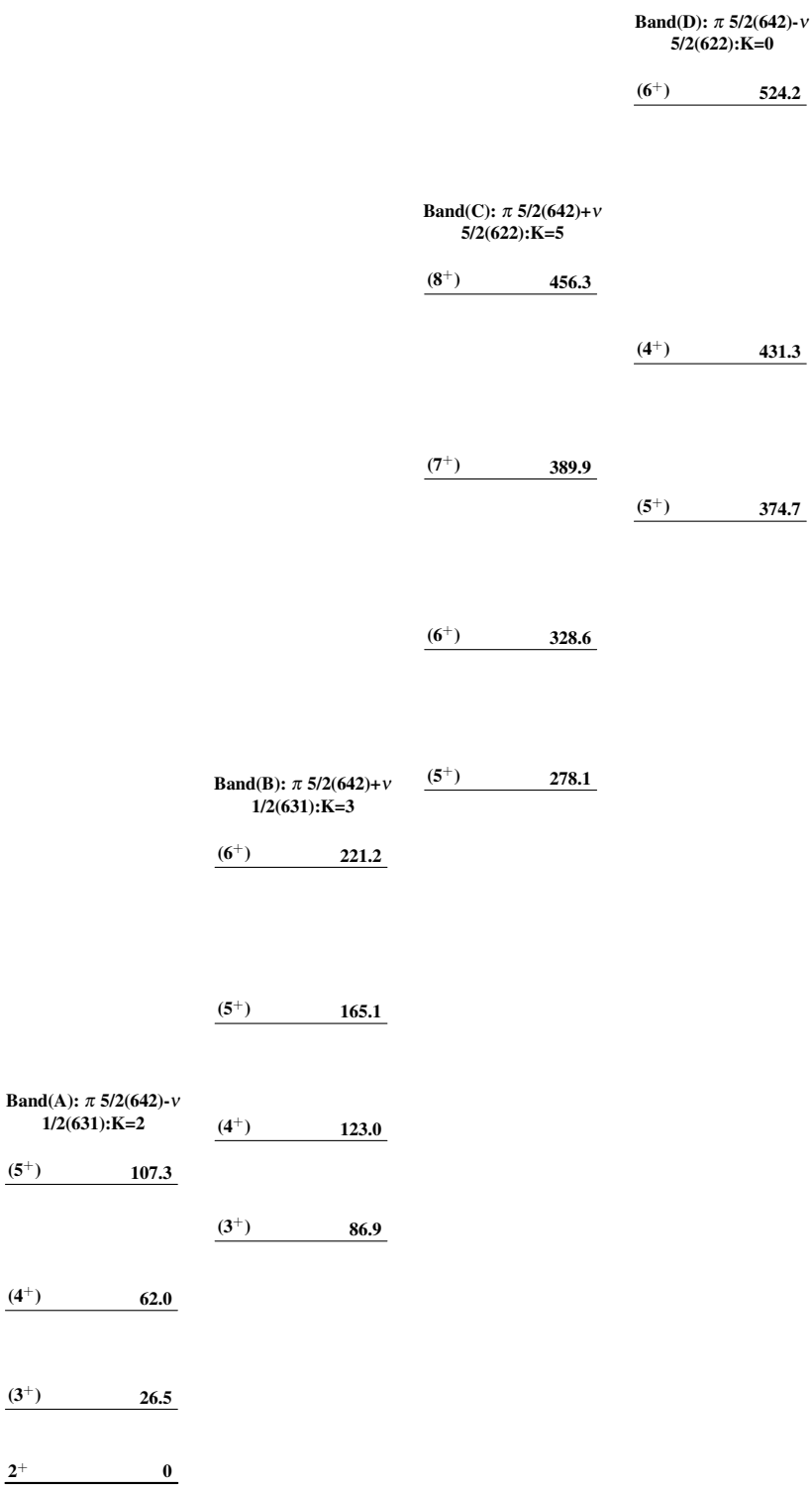
E=12 MeV. FWHM≈14 keV estimated by evaluators.

^{238}Np Levels

E(level)	Jπ&	$T_{1/2}$	E(level)	Jπ&	E(level)	Jπ&
0†	2^+	2.117 d *2*	221.2‡ *8*	(6^+)	456.3# *7*	$(8^+)^a$
26.5† *8*	(3^+)		278.1# *10*	(5^+)	524.2@ *6*	$(6^+)^a$
62.0† *7*	(4^+)		328.6# *5*	(6^+)	603.7 *6*	
86.9‡ *5*	(3^+)		374.7@ *10*	$(5^+)^a$	630.6 *13*	
107.3† *12*	(5^+)		389.9# *9*	(7^+)	648.7 *5*	
123.0‡ *5*	(4^+)		409.5 *5*		675.6 *5*	
165.1‡ *12*	(5^+)		431.3@ *6*	$(4^+)^a$	691.9 *6*	

† Band(A): π 5/2(642)-ν 1/2(631):K=2.
‡ Band(B): π 5/2(642)+ν 1/2(631):K=3.
# Band(C): π 5/2(642)+ν 5/2(622):K=5.
@ Band(D): π 5/2(642)-ν 5/2(622):K=0.
& From authors, based on information about L values deduced from the ratios of cross section at 85° and 135°, comparison of measured cross sections with the calculated ones, systematics of proton and neutron orbitals, and rotational band parameters.
a Based on their (n,γ) and α decay work, 1990Ho02 reinterpret the members of the π 5/2[642]-ν 5/2[622] K=0 band. They reassign the 374.7 level as the 5^+ member of this band, with levels at 250 and at 299, not seen in (d,p), as the 1^+ and 3^+ members, respectively. The 4^+ and 6^+ members are the same in the two works. The 456.3 level is reassigned as the 8^+ member of the K=5 band, and the 332.5 level, seen in the (n,γ) work of 1979Io01, is left unassigned. 1979Io01 assigned the 374 level as an unresolved doublet, the 2^+ and 3^+ members of the K=0 band, and the 456.3 level as the 5^+ band member.

^{237}Np(d,p) 1979Io01



$^{238}_{93}Np_{145}$