^{235}U(d,t) 1968Bj05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,681 (2007)	1-Jun-2006

Additional information 1.
E(d)=13 MeV (1968Bj05).
Q(d,t)=935 *14* (1968Bj05).
Other measurements: 1959Fu64.

^{234}U Levels

Energy resolution was about 9 keV.
Band(α) $K^\pi=0^+$:νν 7/2[743],7/2[743].

E(level)	J^π †	Comments
(0.0)	0^+	
48.4	2^+	
149.4	4^+	
299.1	6^+	
501.1	8^+	
849.3	2^+	Line broader than expected for a single state (1968Bj05).
927.0‡	2^+	
965.0‡	3^+	
989.1#	2^-	
(1023.5‡)	4^+	Line obscured by population to 3^- level at 1023.6 keV.
1023.6#	3^-	
1069.3#	4^-	
1089.3‡	5^+	
1127.2#	5^-	
1163.9‡	6^+	
1193.5#	6^-	
1275.3#	7^-	
1418.6@	6^-	
1434.3&	1^-	
1451.4		
1463.6&	(2^-)	
1486.7@	7^-	Line assumed to populate a doublet. The other component is assigned to populate a 3^- member of the $K^\pi=1^-$ band (1968Bj05).
1486.7&	3^-	Line assumed to populate a doublet. The other component is assigned to populate a 7^- member of the $K^\pi=6^-$ band (1968Bj05).
1501.9		
1531.9&	4^-	
1567.7@	8^-	
1581.1&	5^-	
1601.0		
1624.4		
1651.2&	6^-	Line assumed to populate a doublet. The other component is assigned to populate a 9^- member of the $K^\pi=6^-$ band (1968Bj05).
1651.2@	9^-	Line assumed to populate a doublet. The other component is assigned to populate a 6^- member of the $K^\pi=1^-$ band (1968Bj05).

Continued on next page (footnotes at end of table)

^{235}U(d,t) 1968Bj05 (continued)

^{234}U Levels (continued)

E(level)	Jπ†	Comments
1690.7[a]	5−	
1719.6[&]	7−	
1730.7		
1747.1[a]	6−	
1779.4		
1810.0[a]	7−	Probable multiplet; spectroscopic factor is larger than expected (1968Bj05).
1838.9		
1860.6		
1884.3[b]	4+	
1931.2[b]	5+	
1955.8[c]	3+	
1985.2[b]	6+	Possible multiplet; spectroscopic factor is larger than the calculated one (1968Bj05).
2000.3[c]	4+	
≈2026.0		
≈2038.6		
2058.7		
2095.8		
2143.4		
2163.3		
2184.1		
2213.7		

† J^π and configuration assignments of 1968Bj05 are based on spectroscopic factors (ratio of observed to theoretical (DWBA) cross sections) at θ=90° and 125°. See 1968Bj05 for the optical-model parameters used in DWBA calculations. Assignments given to various bands are from the contributing two-neutron configuration to the state. Squared amplitudes of these configurations in collective states are given when they were determined experimentally. For theoretical amplitudes and pairing factors see 1965So04, 1968Bj05, 1975Iv03.

‡ Band(A): $K^\pi=2^+$:νν 7/2[743],3/2[761]. Experimental amplitude square=27% *14*.

Band(B): $K^\pi=2^-$:νν 7/2[743],3/2[631]. Experimental amplitude square=58% *10*.

@ Band(C): $K^\pi=6^-$:νν 7/2[743],5/2[633].

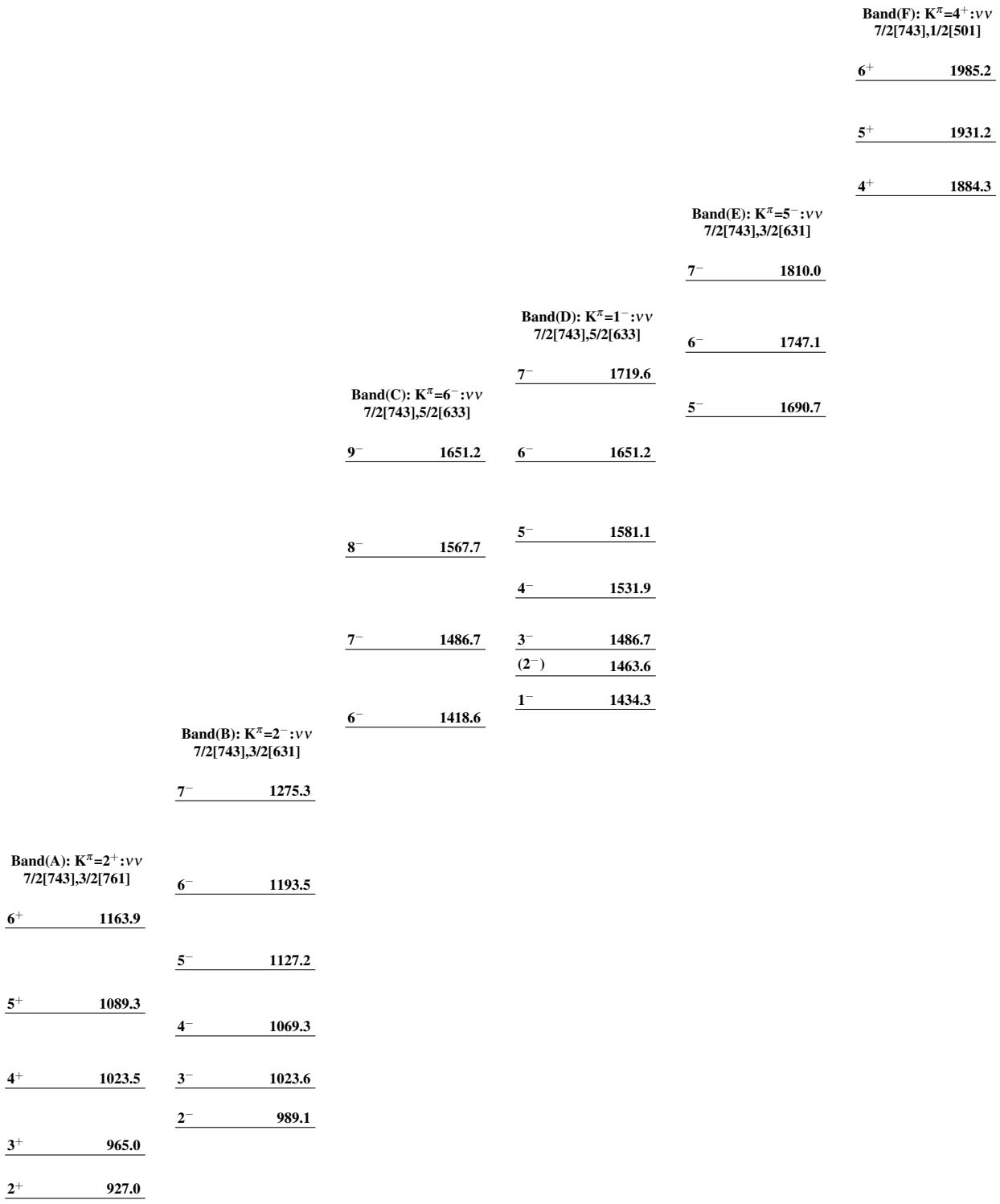
& Band(D): $K^\pi=1^-$:νν 7/2[743],5/2[633]. Experimental amplitude square=100% *20*.

a Band(E): $K^\pi=5^-$:νν 7/2[743],3/2[631].

b Band(F): $K^\pi=4^+$:νν 7/2[743],1/2[501].

c Band(G): $K^\pi=3^+$:νν 7/2[743],1/2[501].

^{235}U(d,t) 1968Bj05



$^{234}_{92}U_{142}$

^{235}U(d,t) 1968Bj05 (continued)

Band(G): $K^{\pi}=3^{+}$:$\nu\nu$ 7/2[743],1/2[501]

4^{+} 2000.3

3^{+} 1955.8

$^{234}_{92}U_{142}$