^{230}Th(d,d′)   1975Th11

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 197,259 (2024).	26-Sep-2023

1975Th11: Measured inelastically scattered dueterons at scattering angles of 90° and 125°, with E(d)=16 MeV.

^{230}Th Levels

E(level)	$J^{\pi\dagger}$	Comments
0‡	0$^+$	
54‡ 2	2$^+$	
173‡ 2	4$^+$	
357‡ 2	6$^+$	
506$^\#$ 2	1$^-$	
570$^\#$ 2	3$^-$	
592‡ 4	8$^+$	
632$^@$ 3	0$^+$	
682$^\#$ 2	5$^-$	May contain small K=0, J=2$^+$ strength.
781$^\&$ 2	2$^+$	B(E2)=0.14 3 was obtained in 1975Th11 by normalizing (d,d′) cross section for the 2$^+$, 54-keV level to B(E2)=8.06 11, as measured in Coulomb excitation.
852$^\#$ 4	(7$^-$)	
881$^\&$ 4	(4$^+$)	
951^a 3	1$^-$	
1011^a 2	3$^-$	B(E3)=0.50 was obtained in 1975Th11 by normalizing (d,d′) cross section for the 3-, 570-keV level to B(E3)=0.64, as measured in Coulomb excitation.
1110^b 4	(3$^-$)	Assignment to the K=2 band is tentative (1975Th11). From Adopted Levels: J^π(1108.2 level)=4$^+$ of K=2 band, and J^π(1108.9 level)=5$^-$ of K=1 band. B(E3)=0.06 was obtained in 1975Th11 by normalizing (d,d′) cross section for the 3-, 570-keV level to B(E3)=0.64, as measured in Coulomb excitation.
1125^a 3	(5$^-$)	The adopted J^π is 3$^-$ of the K=1 band for a 1127.79-keV level.
1571 3		
1591 3		
1628 2		
1663 3		
1695 4		
1718 3		
1791 3		
1842 4		
1858 4		

† Assignments of 1975Th11, made from cross-section patterns, rotational energy spacings, and earlier spin assignments (1970El21).
  Assignments in parentheses are uncertain.
‡ Band(A): K=0$^+$ g.s. rotational band.
$^\#$ Band(B): K=0$^-$ band.
$^@$ Band(C): K=0$^+$ band.
$^\&$ Band(D): K=2$^+$ band.
^{a} Band(E): K=1$^-$ band.
^{b} Band(F): K=2$^-$ band.

^{230}**Th(d,d′)**   **1975Th11**

Band(E): K=1⁻ band

(5⁻)   1125

Band(F): K=2⁻ band

(3⁻)   1110

3⁻   1011

1⁻   951

Band(D): K=2⁺ band

(4⁺)   881

Band(B): K=0⁻ band

(7⁻)   852

2⁺   781

5⁻   682

Band(C): K=0⁺ band

0⁺   632

Band(A): K=0⁺ g.s. rotational band

8⁺   592

3⁻   570

1⁻   506

6⁺   357

4⁺   173

2⁺   54

0⁺   0

$^{230}_{90}$Th$_{140}$