$^{230}\text{Th(t,}\alpha\text{)}$ **1977Th04**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 109, 2657 (2008)	1-Jun-2008

E=15 MeV.
Data were taken at θ=50°, 60°, 70° (1977Th04).

^{229}Ac Levels

E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$
0	$3/2^{+\ddagger}$	151 5	$1/2^{+@}$	464 4		1004 4	$(5/2^-)^c$
5^d	$5/2^{+\ddagger}$	165 7	$7/2^{-\#}$	489 4		1021 8	
26 5	$9/2^{+\ddagger}$	191 4	$(3/2^+)^@$	598 4		1111 8	
70 5	$(5/2^-)^a$	283 6		623 6		1167 6	
91 5	$13/2^{+\ddagger}$	336 4	$3/2^{+\&}$	654 4		1249 6	
102 8	$3/2^{-\#}$	366 4	$(5/2^+)$	825 6			
120 5	$(7/2^-)^a$	422 4		930 4	$(11/2^-)^b$		

† Spin, parity and Nilsson-state assignments were made by 1977Th04 from comparison of experimental cross sections with calculated ones.
‡ 3/2[651] band member.
$^\#$ 1/2[530] band member.
$^@$ 1/2[400] band member.
$^\&$ 3/2[402] band member.
^{a} 5/2[532] band member?
^{b} 9/2[514] band member?
^{c} 1/2[541] band member?
^{d} The ground state and this level were unresolved; The energy of the $5/2^+$ level was calculated by 1977Th04. Cross-section calculations show that the $3/2^+$, 3/2[631] state is not expected to be populated strongly in this reaction whereas the $5/2^+$ member should be. The authors assumed that the α peak observed at the highest energy populates predominantly the $5/2^+$, 3/2[631] state.