

$^{170}\text{Er}(^{50}\text{Ti},5n\gamma)$ 2005Ku31

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	B. Singh	NDS 114, 2023 (2013)	23-Sep-2013

2005Ku31: E=4.35 MeV/nucleon. ^{215}Th recoils were separated from the beam using a velocity filter SHIP at GSI facility and implanted into a position-sensitive 16-strip PIPS semiconductor detector. Measured $E\gamma$, $I\gamma$, (recoil)- γ - α - γ correlations and coincidences using Clover Ge detector for γ rays.

 ^{215}Th Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	($1/2^-$)		
560.8 2	($5/2^-$)		J^π : from systematics of neighboring nuclides.
1421.3 [†] 3	[†]		
1421.3+x [†]	[†]	0.77 μs 6	$T_{1/2}$: from $\gamma(t)$ (2005Ku31).

[†] From comparison of energies and half-lives of $9/2^-$ isomers in neighboring nuclei, $9/2^-$ is ruled out. Two possibilities have been discussed by 2005Ku31: 860.5γ may be E3 transition from $11/2^+$ to $1/2^-$, which gives half-life consistent with Weisskopf estimates; or there is a level above 1421.3 keV from which a low-energy highly converted transition is omitted. 2005Ku31 could not rule out any of these two possibilities.

 $\gamma(^{215}\text{Th})$

Delayed γ rays of 560.8 and 860.5 keV seen in $\gamma\gamma$ coin and in (recoil)(γ)(α from ^{215}Th decay) coin.

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
x	1421.3+x?		1421.3	
560.8 2	560.8	($5/2^-$)	0.0	($1/2^-$)
860.5 2	1421.3		560.8	($5/2^-$)

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Level Scheme

