^{159}Tb(^{32}S,5nγ),^{155}Gd(^{35}Cl,4nγ) 1981Kr20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia	NDS 183, 1 (2022)	1-Mar-2022

Minor changes since the latest evaluation (2003Ba44).

E(^{32}S)=160-165 MeV, E(^{35}Cl)=155-170 MeV; measured excitation functions, $\gamma(\theta)$, $\gamma\gamma$ coin, pulsed beam; searched for isomeric states in ns to s time regions.

^{186}Tl Levels

E(level)†	J$^{\pi}$†	$T_{1/2}$	Comments
40 *39*	(7$^+$)		
414‡ *39*	(10$^-$)	2.9 s *2*	$T_{1/2}$: From γ(t) using the pulsed-beam method (1981Kr20).
690‡ *39*	(11$^-$)		J$^{\pi}$: from 1981Kr20, based on systematics of heavier Tl isotopes.
1011‡ *39*	(12$^-$)		J$^{\pi}$: from 1981Kr20, based on systematics of heavier Tl isotopes.

† From Adopted Levels.

‡ Band(A): Probable configuration=((π $h_{9/2}$)(ν $i_{13/2}$)) state (1981Kr20); J consistent with systematics of heavier odd-odd Tl isotopes.

γ(^{186}Tl)

E_γ	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.	Comments
276.1	690	(11$^-$)	414	(10$^-$)		
321.5	1011	(12$^-$)	690	(11$^-$)		
374.0 *2*	414	(10$^-$)	40	(7$^+$)	E3	Mult.: From α(K)exp=0.07 *4* (1981Kr20). Deduced from comparison of Hg daughter activity and I(K x ray, Tl) decaying with the same half-life.

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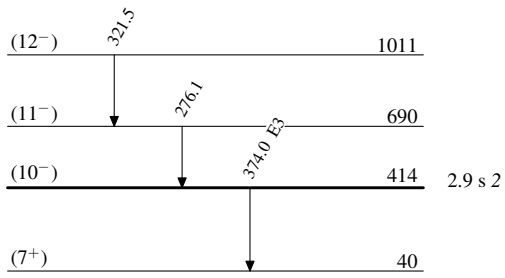
Level Scheme



$^{186}_{81}Tl_{105}$

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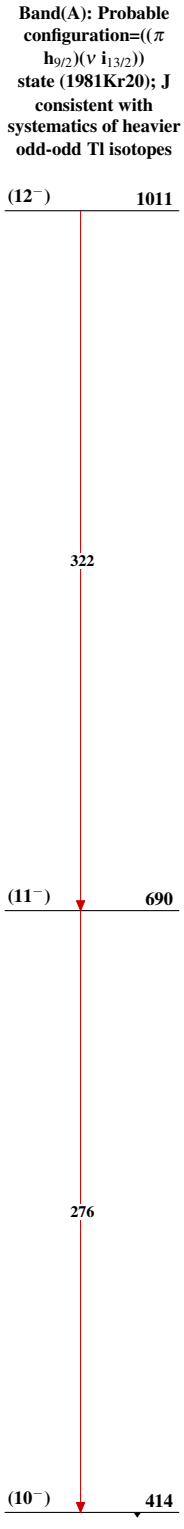

$^{186}_{81}Tl_{105}$