^{181}Ta(^{30}Si,4nγ) 2008Ha39

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski	NDS 112, 707 (2011)	1-Aug-2010

2008Ha39: E(^{30}Si)=152 MeV beam delivered by the ATLAS accelerator at ANL. Detectors: GAMMASPHERE array with 98 HPGe detectors in conjunction with the HERCULES evaporation-residue detector. Measured: Eγ, Iγ, $\gamma\gamma$ coin and $\gamma(\theta)$ gated by reaction products detected in HERCULES.

^{207}Fr Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0.0[#]	9/2$^-$	14.8 s *1*	J$^\pi$,$T_{1/2}$: From Adopted Levels.
599.6[#] *5*	(13/2$^-$)		
1154.8[#] *7*	(17/2$^-$)		
1808.5[#] *9*	(21/2$^-$)		
1885.2 *9*			

[†] From a least-squares fit to Eγ.
[‡] From 2008Ha39, based on deduced transition multipolarities using $\gamma(\theta)$, unless otherwise specified.
[#] Band(A): Weakly collective structure based on the $(\pi\ h_{9/2})^{+1}$ configuration.

$\gamma(^{207}Fr)$

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	Comments
555.2 *5*	57 *5*	1154.8	(17/2$^-$)	599.6	(13/2$^-$)	(E2)	Mult.: A_2=+0.67 *12*.
599.6 *5*	100	599.6	(13/2$^-$)	0.0	9/2$^-$	[E2]	Mult.: A_2=−0.04 *4*, but the value is inconsistent with the proposed stretched E2 assignment in 2008Ha39, where a possible contamination from a transition of similar energy in ^{204}At is suggested.
653.7 *5*	40 *8*	1808.5	(21/2$^-$)	1154.8	(17/2$^-$)		
730.4 *5*	20 *6*	1885.2		1154.8	(17/2$^-$)		

[†] From 2008Ha39. The uncertainties in Eγ were estimated by the evaluator.
[‡] Based on $\gamma(\theta)$ analysis with A_4 term set to zero.

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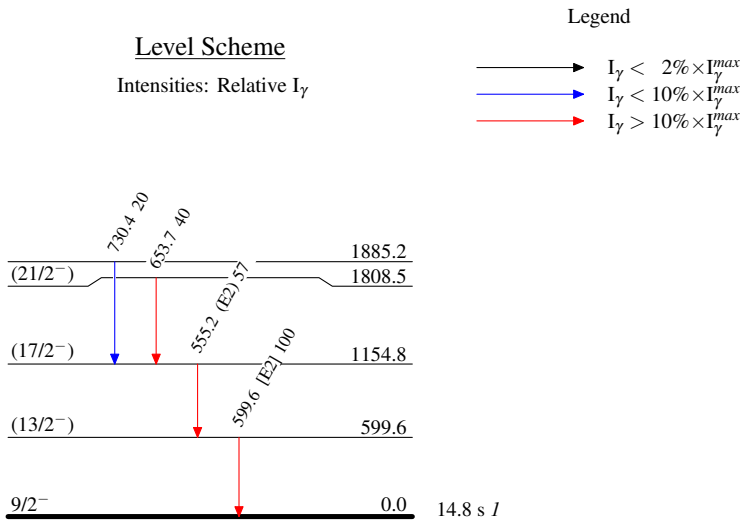
Level Scheme

Intensities: Relative I_γ



$^{207}_{87}Fr_{120}$

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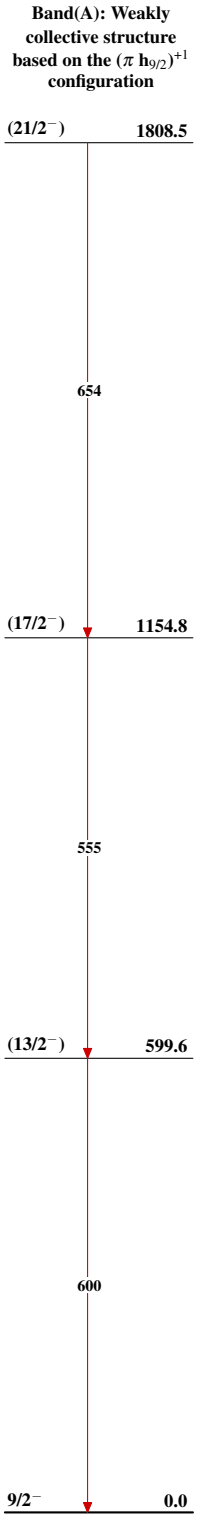

$^{207}_{87}Fr_{120}$