^{92}Mo(^{34}S,3pγ) 1992Li22

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

Also includes ^{106}Cd(^{19}F,2p2nγ) from 1992Li22.
Measurements of ^{92}Mo(^{34}S,3pγ) and ^{106}Cd(^{19}F,2p2nγ):
1992Li22: for the first measurement, E=150 and 155 MeV ^{34}S beam were produced at the Nuclear Structure Facility at Daresbury Laboratory. Target was a stacked of two self-supporting ^{92}Mo foils each with a thickness of 0.4 mg/cm^2. γ rays were detected with the TESSA3 spectrometer with a BGO ball. Measured Eγ, Iγ, $\gamma\gamma$-coin. For the second experiment, E=95 MeV ^{19}F beam was produced from the Tandem van de Graaff at the Niels Bohr Institute (NBI), Riso, Denmark. Target was a self-supporting foil of ^{106}Cd with a thickness of 1.2 mg/cm^2. γ rays were detected with the NORDBALL array of 15 Compton-suppressed HPGe detectors and charged particles were detected with a plastic phoswich scintillator ball HYSTRIX. Measured Eγ, Iγ, particle-$\gamma\gamma$-coin, $\gamma\gamma$ anisotropy. Deduced levels, J, π, band structures.

^{123}Cs Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[‡]	Comments
156.3[‡@]	11/2$^{(-)}$	1.7 s *2*	Additional information 1.
328.1[‡&]	(9/2$^+$)	114 ns *5*	Additional information 2.
477.7[@] *10*	(15/2$^-$)		
596.6[a] *8*	(11/2$^+$)		
900.6[&] *8*	(13/2$^+$)		
999.7[@] *15*	(19/2$^-$)		
1238.2[a] *10*	(15/2$^+$)		
1606.4[&] *11*	(17/2$^+$)		
1685.7[@] *18*	(23/2$^-$)		
1995.3[a] *12*	(19/2$^+$)		
2393?[#&]	(21/2$^+$)[#]		
2486.7[@] *20*	(27/2$^-$)		
3355.7[@] *23*	(31/2$^-$)		
4261.7[@] *25*	(35/2$^-$)		
5217[@] *3*	(39/2$^-$)		
6243[@] *3*	(43/2$^-$)		
7356[@] *3*	(47/2$^-$)		
8562[@] *4*	(51/2$^-$)		
9861?[@]	(55/2$^-$)		
11233?[@]	(59/2$^-$)		

[†] From a least-squares fit to γ-ray energies, unless otherwise noted.
[‡] From Adopted Levels, unless otherwise noted. Energies are rounded values.
[#] Proposed by 1992Li22 based on band assignments. This level is not confirmed in other high-spin studies and thus not adopted in Adopted Levels.
[@] Band(A): π1/2[550], α=−1/2.
[&] Band(B): π9/2[404], α=+1/2.
[a] Band(b): π9/2[404], α=−1/2.

^{92}Mo(^{34}S,3pγ) 1992Li22 (continued)

$\gamma(^{123}Cs)$

Anisotropy ratio R given under comments are from 1992Li22, obtained by R=Iγ(37°)/Iγ(79°) (1992Li22), with typical values of ≈1 for dipole transitions and ≈1.5 for quadrupole transitions.
Additional information 3.

E_γ [†]	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
269 *1*	14	596.6	(11/2$^+$)	328.1	(9/2$^+$)	D+Q	Anisotropy R=1.15 *7*.
304 *1*	21	900.6	(13/2$^+$)	596.6	(11/2$^+$)	D+Q	Anisotropy R=1.08 *5*.
321 *1*	100	477.7	(15/2$^-$)	156.3	11/2$^{(-)}$	Q	Anisotropy R=1.45 *2*.
337 *1*	14	1238.2	(15/2$^+$)	900.6	(13/2$^+$)	D+Q	Anisotropy R=1.12 *6*.
368 *1*	10	1606.4	(17/2$^+$)	1238.2	(15/2$^+$)		
389 *1*	4	1995.3	(19/2$^+$)	1606.4	(17/2$^+$)		
398[#] *1*	2	2393?	(21/2$^+$)	1995.3	(19/2$^+$)		
522 *1*	59	999.7	(19/2$^-$)	477.7	(15/2$^-$)	Q	Anisotropy R=1.63 *3*.
572 *1*	2	900.6	(13/2$^+$)	328.1	(9/2$^+$)		
642 *1*	3	1238.2	(15/2$^+$)	596.6	(11/2$^+$)		
686 *1*	36	1685.7	(23/2$^-$)	999.7	(19/2$^-$)	Q	Anisotropy R=1.43 *5*.
706 *1*	3	1606.4	(17/2$^+$)	900.6	(13/2$^+$)		
757 *1*	2	1995.3	(19/2$^+$)	1238.2	(15/2$^+$)		
787[#] *1*	1	2393?	(21/2$^+$)	1606.4	(17/2$^+$)		
801 *1*	11	2486.7	(27/2$^-$)	1685.7	(23/2$^-$)	Q	Anisotropy R=1.48 *9*.
869 *1*	10	3355.7	(31/2$^-$)	2486.7	(27/2$^-$)	(Q)	Anisotropy R=1.2 *1*.
906 *1*	6	4261.7	(35/2$^-$)	3355.7	(31/2$^-$)		
955 *1*	4	5217	(39/2$^-$)	4261.7	(35/2$^-$)		
1026 *1*	5	6243	(43/2$^-$)	5217	(39/2$^-$)		
1113 *1*	2	7356	(47/2$^-$)	6243	(43/2$^-$)		
1206 *1*	≈1	8562	(51/2$^-$)	7356	(47/2$^-$)		
1303[#] *1*	≈1	9861?	(55/2$^-$)	8562	(51/2$^-$)		
1372[#] *1*	≈1	11233?	(59/2$^-$)	9861?	(55/2$^-$)		

[†] From 1992Li22, unless otherwise noted.
[‡] Deduced by the evaluator from γ anisotropy ratios in 1992Li22.
[#] Placement of transition in the level scheme is uncertain.

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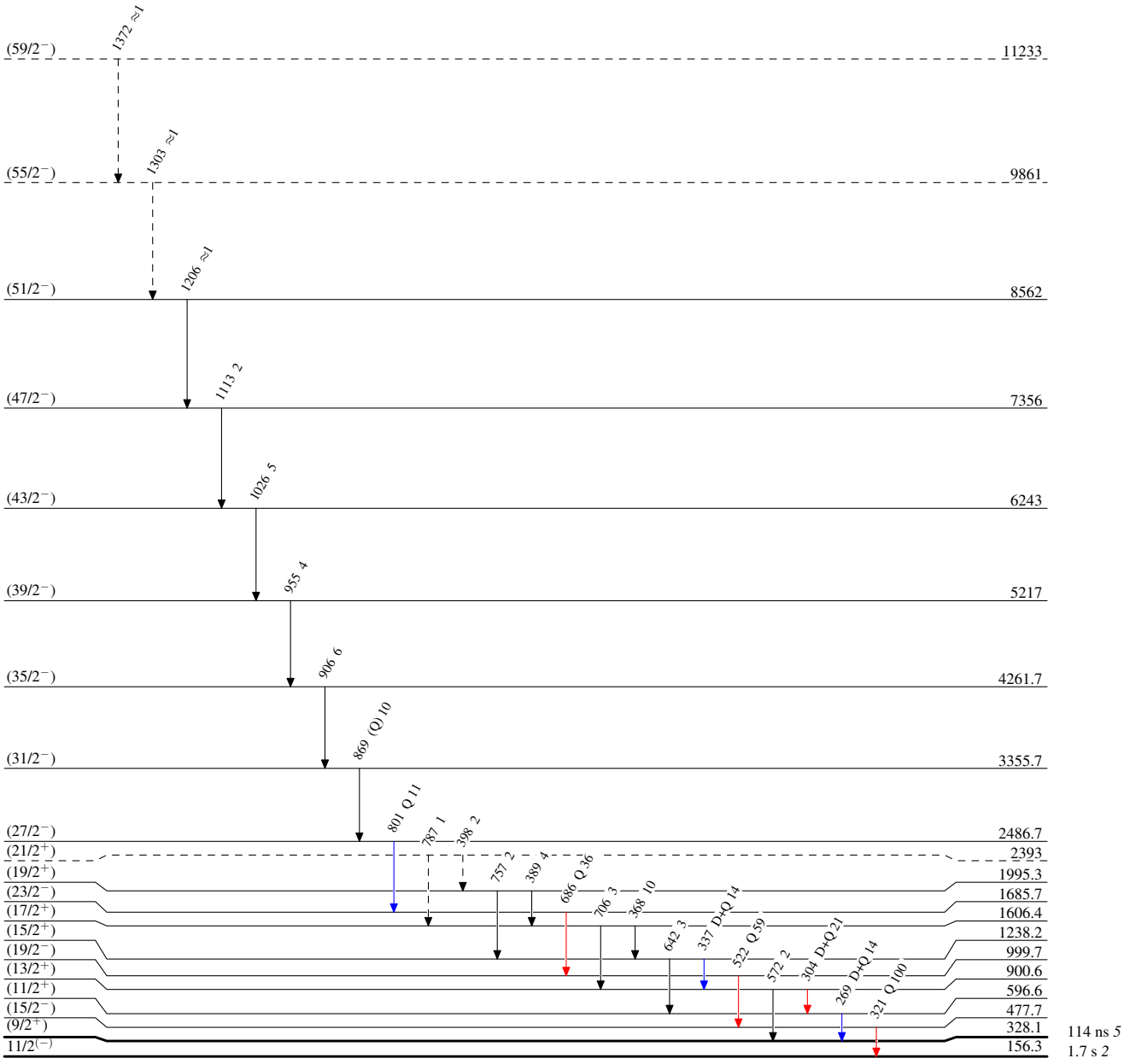
Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{123}_{55}Cs_{68}$

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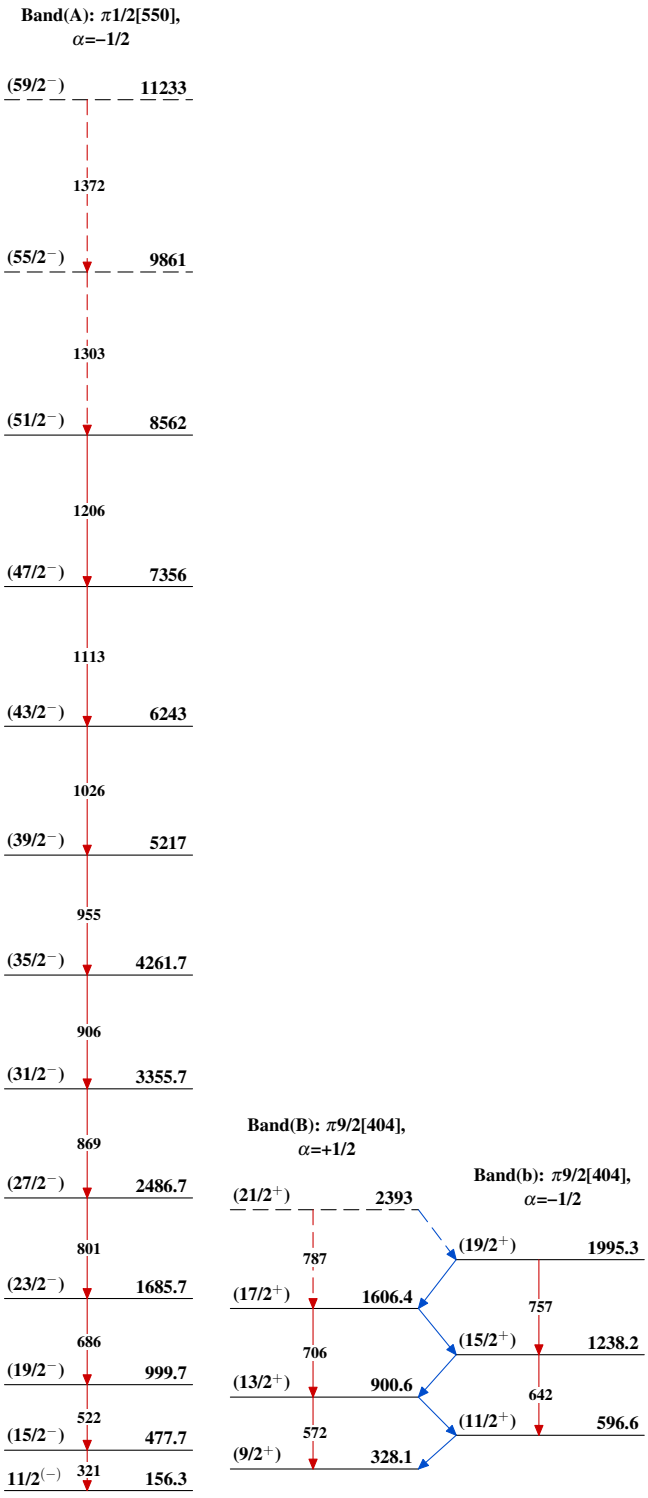

$^{123}_{55}Cs_{68}$