^{114}Cd(^{48}Ca,5nγ):SD   **2007Pa03,2011Wa14**

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	N. Nica	NDS 132, 1 (2016)	4-Dec-2015

Additional information 1.

2007Pa03, 2011Wa14 (also 2008SiZW): E=215 MeV. Measured Eγ, $\gamma\gamma$ using the Gammasphere spectrometer composed of 102 Compton-suppressed HPGe detectors. Measured level lifetime for highly-deformed bands using DSAM and deduced transition quadrupole moment (2011Wa14). Cranked Nilsson-Strutinsky calculations. Deduced two highly-deformed, probable triaxial SD bands.

^{157}Er Levels

E(level)	J^π	Comments
y	J$\approx$(55/2)	J^π: $\approx$60 for the highest level.
y+778.5[†] 5	J+2	
y+1584.0[†] 7	J+4	
y+2434.5[†] 9	J+6	
y+3339.6[†] 10	J+8	
y+4295.5[†] 12	J+10	
y+5300.9[†] 13	J+12	
y+6354.6[†] 14	J+14	
y+7455.6[†] 15	J+16	
y+8606.1[†] 15	J+18	
y+9807.1[†] 16	J+20	
y+11061.3[†] 17	J+22	
y+12372.8[†] 18	J+24	
y+13745.1[†] 18	J+26	
y+15180.7[†] 19	J+28	
y+16681.7[†] 22	J+30	
y+18253.7[†] 24	J+32	
z	J1	
z+956.0[‡] 10	J1+2	
z+1954.0[‡] 15	J1+4	
z+2998.0[‡] 18	J1+6	
z+4091.0[‡] 20	J1+8	
z+5229.0[‡] 23	J1+10	
z+6415.0[‡] 25	J1+12	
z+7651[‡] 3	J1+14	
z+8938[‡] 3	J1+16	
z+10283[‡] 3	J1+18	
z+11685[‡] 4	J1+20	
z+13149[‡] 4	J1+22	

[†] Band(A): Highly-deformed (triaxial) SD-1 band. This structure lies above the terminating bands. 2007Pa03: deformation parameters, ε_2=0.30-0.35, γ=20°−25°; population intensity $\approx$0.01% relative to the channel leading to ^{157}Er. 2011Wa14: Q$_t$=10.9 eb +6−5 with Q$_{sf}$=11.2 eb +27−16. Uncertainties are statistical. Systematic uncertainty of 15% from stopping powers is not included.

[‡] Band(B): Highly-deformed (triaxial) SD-2 band. This structure lies above the terminating bands. 2007Pa03: deformation

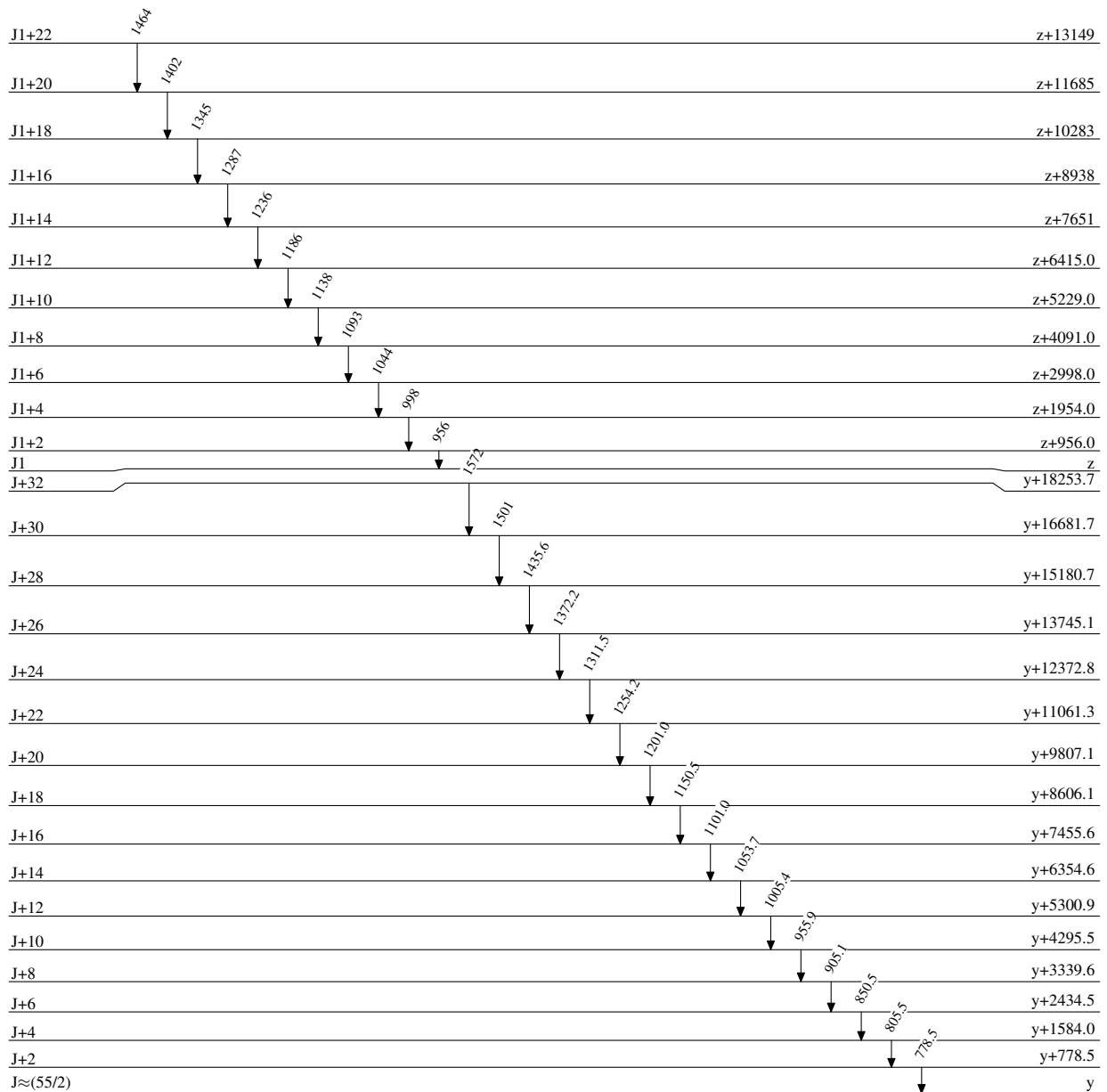## $^{114}Cd(^{48}Ca,5n\gamma)$:SD   [2007Pa03,2011Wa14](continued)

^{157}Er Levels (continued)

parameters, ε_2=0.30-0.35, γ=20°−25°; population intensity ≈0.003-0.005% relative to the channel leading to ^{157}Er. 2011Wa14: Q_t=11.1 eb +12−9 with Q_{sf}=8.6 eb +34−16. Uncertainties are statistical. Systematic uncertainty of 15% from stopping powers is not included.
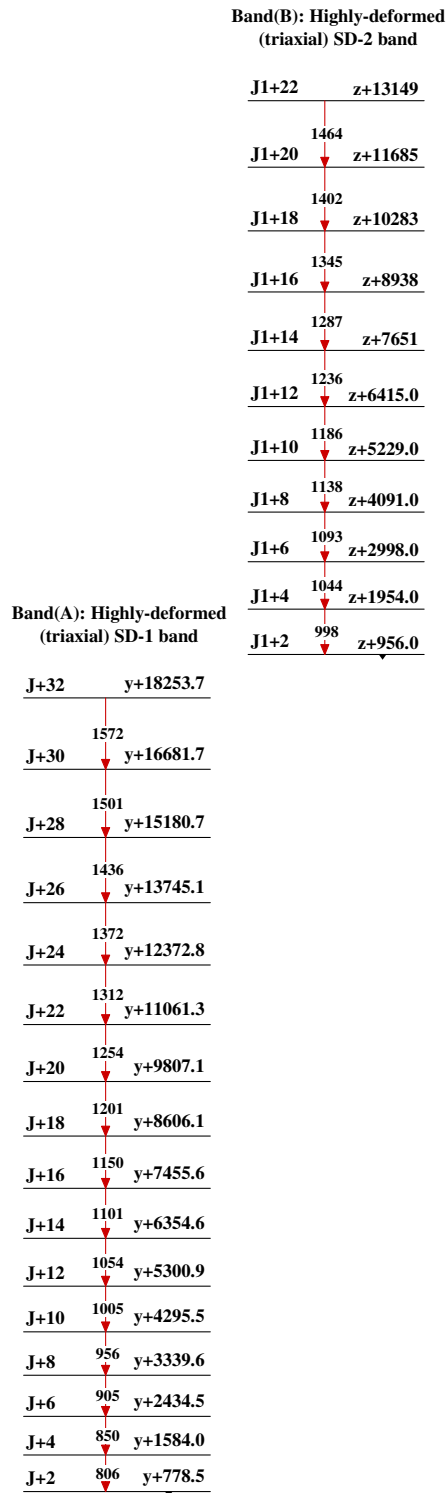
$\gamma(^{157}Er)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	E_i(level)	J_i^π	E_f	J_f^π
778.5 5	y+778.5	J+2	y	J≈(55/2)	1186 1	z+6415.0	J1+12	z+5229.0	J1+10
805.5 5	y+1584.0	J+4	y+778.5	J+2	1201.0 5	y+9807.1	J+20	y+8606.1	J+18
850.5 5	y+2434.5	J+6	y+1584.0	J+4	1236 1	z+7651	J1+14	z+6415.0	J1+12
905.1 5	y+3339.6	J+8	y+2434.5	J+6	1254.2 5	y+11061.3	J+22	y+9807.1	J+20
955.9 5	y+4295.5	J+10	y+3339.6	J+8	1287 1	z+8938	J1+16	z+7651	J1+14
956 1	z+956.0	J1+2	z	J1	1311.5 5	y+12372.8	J+24	y+11061.3	J+22
998 1	z+1954.0	J1+4	z+956.0	J1+2	1345 1	z+10283	J1+18	z+8938	J1+16
1005.4 5	y+5300.9	J+12	y+4295.5	J+10	1372.2 5	y+13745.1	J+26	y+12372.8	J+24
1044 1	z+2998.0	J1+6	z+1954.0	J1+4	1402 1	z+11685	J1+20	z+10283	J1+18
1053.7 5	y+6354.6	J+14	y+5300.9	J+12	1435.6 5	y+15180.7	J+28	y+13745.1	J+26
1093 1	z+4091.0	J1+8	z+2998.0	J1+6	1464 1	z+13149	J1+22	z+11685	J1+20
1101.0 5	y+7455.6	J+16	y+6354.6	J+14	1501 1	y+16681.7	J+30	y+15180.7	J+28
1138 1	z+5229.0	J1+10	z+4091.0	J1+8	1572 1	y+18253.7	J+32	y+16681.7	J+30
1150.5 5	y+8606.1	J+18	y+7455.6	J+16					

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Level Scheme

J1+22	1464	z+13149
J1+20	1402	z+11685
J1+18	1345	z+10283
J1+16	1287	z+8938
J1+14	1236	z+7651
J1+12	1186	z+6415.0
J1+10	1138	z+5229.0
J1+8	1093	z+4091.0
J1+6	1044	z+2998.0
J1+4	998	z+1954.0
J1+2	956	z+956.0
J1	572	z
J+32		y+18253.7
J+30	1501	y+16681.7
J+28	1435.6	y+15180.7
J+26	1372.2	y+13745.1
J+24	1311.5	y+12372.8
J+22	1254.2	y+11061.3
J+20	1201.0	y+9807.1
J+18	1150.5	y+8606.1
J+16	1101.0	y+7455.6
J+14	1053.7	y+6354.6
J+12	1005.4	y+5300.9
J+10	955.9	y+4295.5
J+8	905.1	y+3339.6
J+6	850.5	y+2434.5
J+4	805.5	y+1584.0
J+2	778.5	y+778.5
J≈(55/2)		y

$^{157}_{68}$Er$_{89}$

^{114}Cd(^{48}Ca,5nγ):SD　　2007Pa03,2011Wa14

Band(B): Highly-deformed
(triaxial) SD-2 band

J1+22	z+13149

1464

J1+20	z+11685

1402

J1+18	z+10283

1345

J1+16	z+8938

1287

J1+14	z+7651

1236

J1+12	z+6415.0

1186

J1+10	z+5229.0

1138

J1+8	z+4091.0

1093

J1+6	z+2998.0

1044

J1+4	z+1954.0

998

J1+2	z+956.0

Band(A): Highly-deformed
(triaxial) SD-1 band

J+32	y+18253.7

1572

J+30	y+16681.7

1501

J+28	y+15180.7

1436

J+26	y+13745.1

1372

J+24	y+12372.8

1312

J+22	y+11061.3

1254

J+20	y+9807.1

1201

J+18	y+8606.1

1150

J+16	y+7455.6

1101

J+14	y+6354.6

1054

J+12	y+5300.9

1005

J+10	y+4295.5

956

J+8	y+3339.6

905

J+6	y+2434.5

850

J+4	y+1584.0

806

J+2	y+778.5

$^{157}_{68}$Er$_{89}$