^{120}Sn(^{44}Ca,4nγ):tsd 2008Ag04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 176, 1 (2021)	1-May-2021

2008Ag04 compiled by S. Geraedts and B. Singh (McMaster).

E=210 MeV beam provided by 88-Inch cyclotron at LBNL. Measured Eγ, Iγ, $\gamma\gamma$ using GAMMASPHERE array. Comparisons with structures in ^{157}Er and ^{158}Er and with cranked- Nilsson-Strutinsky calculations.

^{160}Yb Levels

E(level)	J$^{\pi}$†	E(level)	J$^{\pi}$†	E(level)	J$^{\pi}$†	E(level)	J$^{\pi}$†
x‡	J≈(20)	2856+x‡	J+8	6215+x‡	J+16	10339+x‡	J+24
654+x‡	J+2	3641+x‡	J+10	7177+x‡	J+18	11501+x‡	J+26
1350+x‡	J+4	4449+x‡	J+12	8185+x‡	J+20	12734+x‡	J+28
2085+x‡	J+6	5304+x‡	J+14	9237+x‡	J+22	14045+x‡	J+30

† From decay pattern to known normal-deformed states of positive and negative parities with both signatures, the spin range of newly discovered band is estimated by 2008Ag04 to be ≈ 20-50.

‡ Band(A): Triaxial strongly-deformed band. Population intensity ≈ 0.3% of the 4n-reaction channel. The decay pattern and dynamic moment of inertia are found to be similar to triaxial strongly-bands in ^{157}Er and ^{158}Er. From model calculations, a minimum associated with this structure is suggested to correspond to deformation parameters: ε_2≈0.37, γ≈20°. A discontinuity in the dynamic moment of inertia for this band at $\hbar\omega$=0.40-0.45 MeV is interpreted as crossing between $\nu i_{13/2}$ levels. Possible configuration relative to ^{146}Gd core=$\pi[(h^8_{11/2},(h_{9/2},f_{7/2})^1]\otimes\nu[i^4_{13/2},h^{-2}_{11/2},N_{osc}=4^{-2}]$.

$\gamma(^{160}$Yb)

E$_\gamma$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	E$_\gamma$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$
654	654+x	J+2	x	J≈(20)	962	7177+x	J+18	6215+x	J+16
696	1350+x	J+4	654+x	J+2	1008	8185+x	J+20	7177+x	J+18
735	2085+x	J+6	1350+x	J+4	1052	9237+x	J+22	8185+x	J+20
771	2856+x	J+8	2085+x	J+6	1102	10339+x	J+24	9237+x	J+22
785	3641+x	J+10	2856+x	J+8	1162	11501+x	J+26	10339+x	J+24
808	4449+x	J+12	3641+x	J+10	1233	12734+x	J+28	11501+x	J+26
855	5304+x	J+14	4449+x	J+12	1311	14045+x	J+30	12734+x	J+28
911	6215+x	J+16	5304+x	J+14					

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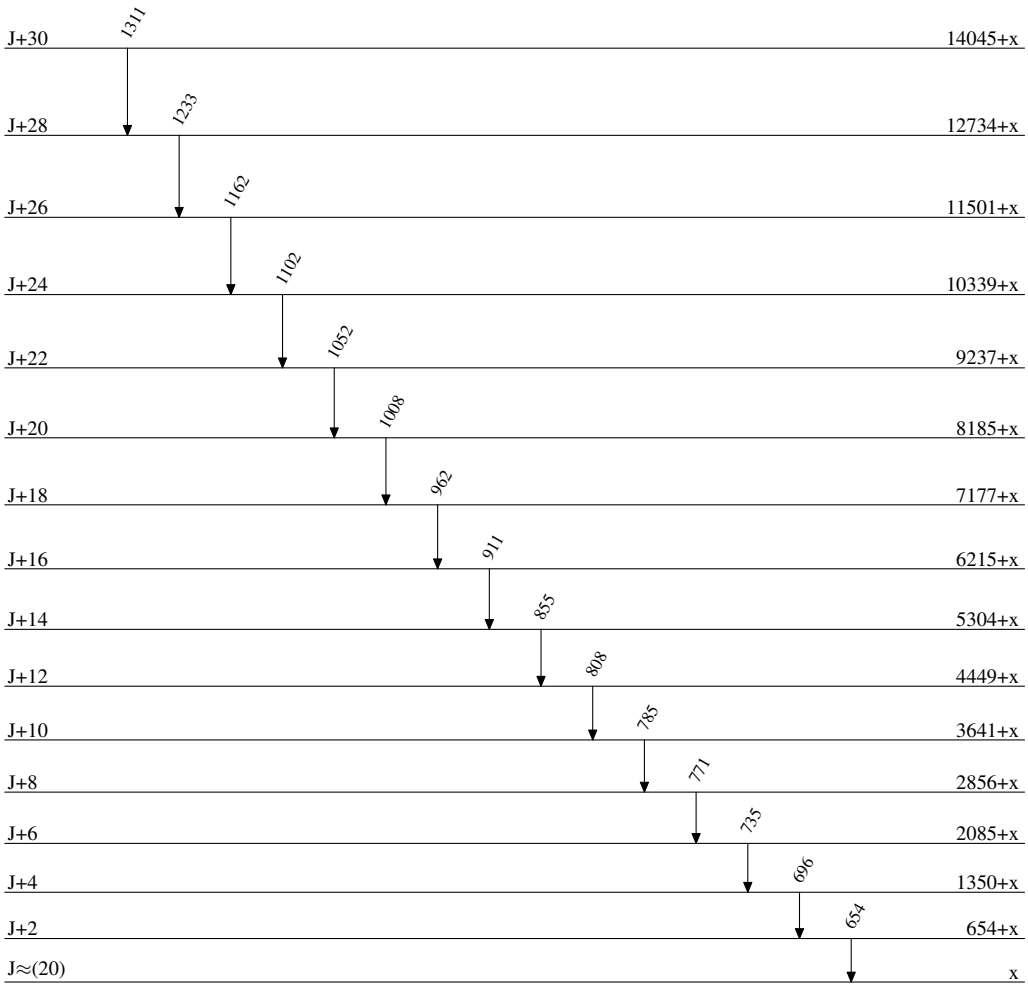
Level Scheme



$^{160}_{70}Yb_{90}$

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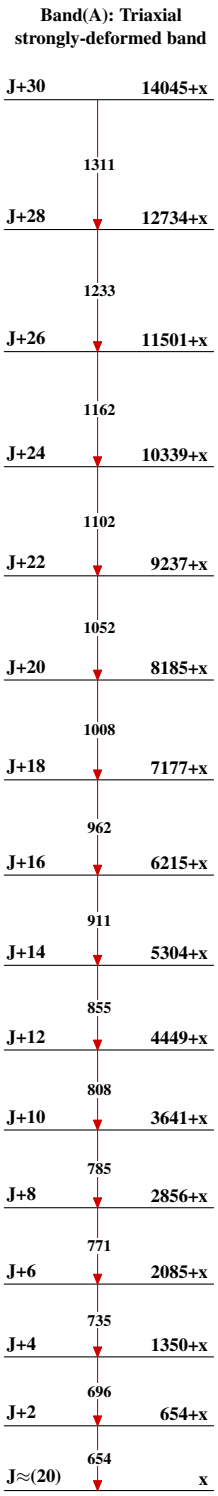

$^{160}_{70}Yb_{90}$