^{9}Be(^{57}Zn,nγ) 2021Fe11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	25-Mar-2022

2021Fe11: E(^{57}Zn)=200 MeV/nucleon beam from ^{9}Be(^{78}Kr,X), E=345 MeV/nucleon, followed by separation of fragments of interest by the BigRIPS and ZeroDegree spectrometer for unambiguous selection of reaction residues through the Bπ-TOF-ΔE methods at RIBF-RIKEN facility. Measured Eγ, Iγ, $\gamma\gamma$-coin using DALI2^{+} array of 226 NaI(Tl) crystals covering polar angles in the range 18° to 125° with respect to the beam axis. Deduced levels, J^{π}, yrast structure up to (6^{+}). Comparison with experimental level structure of mirror nucleus ^{56}Fe, and with shell-model calculations using KB3GR interaction.

^{56}Zn Levels

E(level)[†]	J$^{\pi}$[‡]
0[#]	0^{+}
830[#] *5*	(2^{+})
2102[#] *14*	(4^{+})
3482[#] *21*	(6^{+})

[†] From Eγ values in 2021Fe11.
[‡] As given in 2021Fe11, from comparison with experimental level structure of mirror nucleus ^{56}Fe, and with shell-model calculations using KB3GR interaction.
[#] Band(A): g.s. band.

γ(^{56}Zn)

E$_{\gamma}$[†]	I$_{\gamma}$[†]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$
830 *5*	100 *5*	830	(2^{+})	0	0^{+}
1272 *13*	76 *19*	2102	(4^{+})	830	(2^{+})
1380 *16*	58 *11*	3482	(6^{+})	2102	(4^{+})

[†] From 2021Fe11.

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Level Scheme

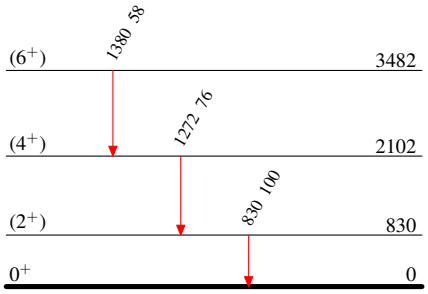
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{56}_{30}Zn_{26}$

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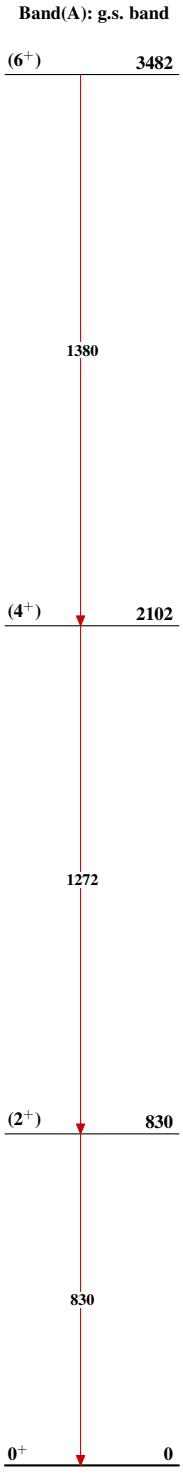

$^{56}_{30}Zn_{26}$