

^{131}Eu p decay (17.8 ms) 1999So17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93,33 (2001)	11-May-2001

Parent: ^{131}Eu : $E=0$; $J^\pi=(3/2^+)$; $T_{1/2}=17.8$ ms 19; $Q(p)=939$ 7; %p decay=?

^{131}Eu - $T_{1/2}$: 17.8 ms 19 (1999So17). Earlier $T_{1/2}=26$ ms 6 (1998Da03).

^{131}Eu - J^π : 3/2[411] configuration from comparison of measured branching ratio and calculations.

^{131}Eu - $Q(p)$: from $E(p)=932$ 7.

1999So17, 1998Da03: measured protons. ^{131}Eu produced by $^{58}\text{Ni}(^{78}\text{Kr},p4n)$ at $E=402$ MeV. $A=131$ ions were analyzed by Fragment Mass Analyzer.

In 1998Da03, ^{131}Eu was produced by $^{96}\text{Ru}(^{40}\text{Ca},p4n)$ $E=222$ MeV, followed by analysis of $A=131$ recoil ions by Fragment Mass Analyzer.

Other: 1983La27: no evidence found for proton decay.

Calculations of proton decay rate: 2001Es01, 2000Da11, 2000Kr07, 2000Ma18.

 ^{130}Sm Levels

E(level)	J^π
0	0^+
122 3	(2^+)

 $\gamma(^{130}\text{Sm})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α^\dagger	Comments
122 3	122	(2^+)	0	0^+	[E2]	1.16 11	E_γ : from a simulation of the observed proton spectrum which contained a peak due to 811 proton+ce(K)(122 γ). See 1999So17 for details of the input parameters, including the conversion coefficient for 2^+ to 0^+ transition, in the simulation procedure.

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

Protons (^{130}Sm)

E(p)	$E(^{130}\text{Sm})$	I(p)	Comments
811 7	122	24 5	
932 7	0	76	E(p): other: 950 8 (1998Da03).

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