^{193}Bi ε decay 1984Co13,2010Co13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 143, 1 (2017)	31-Mar-2017

Parent: ^{193}Bi: E=0.0; J^{π}=(9/2$^-$); $T_{1/2}$=63.6 s *30*; Q(ε)=6310 *50*; %ε+%β^+ decay=96.5 *15*

1984Co13: Sources from ^{16}O bombardments of natural rhenium, E(^{16}O)=170 MeV, and ^{20}Ne bombardments of ^{181}Ta, E(^{20}Ne)=137 MeV; mass separation; measured Eγ, Iγ, prompt and delayed $\gamma\gamma$ and xγ coin.

1984Co13 report the identification of 21 γ rays with $T_{1/2\ 1/2}$=65 s *4*, but do not give energy and intensity values.

2010Co13: ^{193}Bi was produced from fusion-evaporation reactions using ^{14}N, ^{16}O and ^{20}Ne beams on natural Ir (37.3% ^{191}Ir, 62.7% ^{193}Ir), natural Re (37.4% ^{185}Re, 62.6% ^{187}Re) and ^{181}Ta targets, respectively. The radioactive recoils were subsequently ionized in a plasma ion source, mass separated and implanted in an aluminized mylar tape. Single γ-ray energy spectra were recorded with two coaxial HPGe detectors. Measured γ-ray energies and relative intensities along with possible cross-over (sum peak). γ-ray placements are not presented.

$\gamma(^{193}Pb)$

E_γ[†]	I_γ[†]	Comments
[x]174.5	100	
[x]196.8	5.4	
[x]290.6	7.8	
[x]320.1	7.7	
[x]354	8.7	
[x]505.9	5.2	
[x]554.2	38	
[x]621.2	9.2	
[x]681.1	48	
[x]687.2	12.4	
[x]711.1	48.8	
[x]739.1	13.5	
[x]750.1	6.3	E_γ: Possible cross-over of 196.8γ + 554.2γ.
[x]818.5	14.2	E_γ: Possible cross-over of 196.8γ + 621.2γ.
[x]861.8	20	E_γ: Possible cross-over of 174.5γ + 687.6γ.
[x]873.9	29.4	E_γ: Possible cross-over of 320.1γ + 554.2γ.
[x]995.7	23.8	
[x]1022.3	12.8	
[x]1049.1	9.9	E_γ: Possible cross-over of 174.5γ + 873.9γ.
[x]1116.1	8.4	
[x]1124.7	5.2	
[x]1171.6	10.1	E_γ: Possible cross-over of 174.5γ + 995.7γ.
[x]1630.6	0.4	E_γ: Possible cross-over of 505.9γ + 1124.7γ.

[†] From 2010Co13.
[x] γ ray not placed in level scheme.