^{90}Rh ε decay (29 ms) 2019Pa16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, E. A. Mccutchan	NDS 165, 1 (2020)	1-Mar-2020

Parent: ^{90}Rh: E=0.0; $J^\pi=(0^+)$; $T_{1/2}$=29 ms *3*; Q(ε)=13.2×10^3 *3*; %ε+%$β^+$ decay=100.0

^{90}Rh-Q(ε): value is from systematics from 2017Wa10. In 2019Pa16, the Q value is measured as 13.19 MeV *+150 −116* from endpoint energy measurements.

2019Pa16: ^{90}Rh produced from fragmentation of a ^{124}Xe beam at E=345 MeV/nucleon on a 740 mg/cm^2 ^{9}Be target at RIKEN, Japan. Fragments separated by Bρ-ΔE-Bρ method in the first stages of BigRIPS and then Bρ-TOF-Bρ measurements using later stage of BigRIPS and the ZeroDegree spectrometer. Ions were implanted in WAS3ABi consisting of three double-sided silicon strip detectors and ten single-sided silicon strip detectors. Gamma rays were detected using the Euroball-RIKEN Cluster Array (EURICA) consisting of 84 HPGe crystals arranged in 12 clusters. Measured Eγ, Iγ, β spectra, E(p), I(p), βγ-coin, βp-coin, γβp-coin, half-life, β-delayed proton emission probability.

^{90}Ru Levels

E(level)	J^π
0.0	0^+

ε,$β^+$ radiations

E(decay)	E(level)	I$β^+$ †	Iε†	Log *ft*	I(ε+$β^+$)†	Comments
(1.32×10^4 *3*)	0.0	≈99.8	≈0.198	≈3.6	≈100	av Eβ=5.83×10^3 *15*; εK=0.00172 *13*; εL=0.000210 *16*; εM+=4.9×10^{-5} *4*

† Absolute intensity per 100 decays.