^{120}Rh IT decay (0.294 μs) 2012Ka36

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	30-Jun-2017

Parent: ^{120}Rh: E=157.2 *7*; $T_{1/2}$=0.294 μs *+16−15*; %IT decay=100.0

^{120}Rh-%IT decay: Assumed %IT=100.

2012Ka36: isomer in ^{120}Rh produced in Be(^{238}U,X) reaction at E=345 MeV/nucleon, beam provided by the RIBF accelerator complex at RIKEN facility. Fission fragments were separated and analyzed by BigRIPS separator, transported to focal plane of ZeroDegree spectrometer and finally implanted in an aluminum stopper. Particle identification was achieved by ΔE-tof-Bρ method. Delayed gamma rays from microsecond isomers were detected by three clover-type HPGe detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, isomer half-life. Deduced levels.

2007To23 (also 2006ToZW thesis): in a short report authors report observation of isomers in several nuclei including ^{120}Rh from fragmentation of ^{136}Xe beam at 120 MeV/nucleon carried out at β counting setup of NSCL, MSU facility. A γ ray of 211 keV was shown in a spectrum from the isomer decay with neither its half-life nor its placement in a level scheme.

^{120}Rh Levels

E(level)	$T_{1/2}$	Comments
0		
98.1? *5*		E(level): reverse ordering of the 59.1-98.1 γ cascade is also possible.
157.2 *7*	0.294 μs *+16−15*	Number of implanted fragments=1.7×10^5. $T_{1/2}$: from γ(t) method (2012Ka36).

γ(^{120}Rh)

Eγ	Iγ	E$_i$(level)	E$_f$	Mult.	Comments
59.1† *5*	8.2 *15*	157.2	98.1?	D,E2	Mult.: from intensity balance argument.
98.1† *5*	100 *5*	98.1?	0		

† Reverse ordering of the 59.1-98.1 γ cascade is also possible.

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Decay Scheme

Intensities: Relative I_γ

%IT=100.0