

^{54}Sc IT decay (2.77 μs) 2010Cr02,2012Ka36,1998Gr14

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|----------------------|---------|-------------------|------------------------|
| Full Evaluation | Yang Dong, Huo Junde | | NDS 121, 1 (2014) | 20-Jun-2014 |

Parent: ^{54}Sc : E=110.0; $J^\pi=(4,5)^+$; $T_{1/2}=2.77 \mu\text{s}$ 2; %IT decay=?

1998Gr14: source from Ni($^{86}\text{Kr}, X\gamma$) E=60.3 MeV/nucleon, tof- ΔE -E technique.

2010Cr02: source from $^9\text{Be}(^{76}\text{Ge}, X\gamma)$ E=130 MeV/nucleon, tof technique, Measured β particles using nsl Beta Counting System of three Si pin detectors, a double-sided silicon strip detector and six single sided silicon strip detectors. Detected prompt and delayed γ rays in coin with fragments using 16 Ge detectors of the Segmented Germanium array.

2012Ka36: source from Be($^{238}\text{U}, X\gamma$), ^{238}U beam at E=345 MeV/nucleon, fission fragments were separated and analyzed by BigRIPS separator, to focal plane of ZeroDegree spectrometer and finally implanted in transported an aluminum stopper. Particle identification was achieved by ΔE -tof- β PHo method. Delayed gamma rays from microsecond isomers were detected by three clover-type HPGe detectors. Measured E_γ , I_γ , $\gamma\gamma$ -coin, and isomer half-life.

 ^{54}Sc Levels

| E(level) | J^π | $T_{1/2}$ | Comments |
|----------|--------------------|----------------------|--|
| 0.0 | (3) ⁺ | 526 ms 15 | $T_{1/2}$: From 2010Cr02. |
| 110.0 10 | (4,5) ⁺ | 2.77 μs 2 | %IT=100 $T_{1/2}$: From 2010Cr02. Others: 2.78 μs +31-25 (2012Ka36) and 7 μs 5 (1998Gr14). |

 $\gamma(^{54}\text{Sc})$

| E_γ | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Mult. | Comments |
|------------|---------------------|--------------------|-------|------------------|-------|---|
| 110.5 3 | 110.0 | (4,5) ⁺ | 0.0 | (3) ⁺ | E2 | E_γ : from weighted average of 110.5 3 (1998Gr14) and 110.7 5 (2012Ka36). Mult.: from 1998Gr14 based on the comparison of the half-life of the isomer with Weisskopf estimates for given transition energy. |

 ^{54}Sc IT decay (2.77 μs) 2010Cr02,2012Ka36,1998Gr14Decay Scheme

%IT=?

