

^{84}Ga β^- decay (<0.085 s) [2009LeZZ](#)

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|---|---------|---------------------|------------------------|
| Full Evaluation | A. A. Sonzogni, M. Fadil, and B. Pfeiffer | | NDS 110,2815 (2009) | 30-Sep-2009 |

Parent: ^{84}Ga : $E=0.0+x$; $J^\pi=(3^-,4^-)$; $T_{1/2}<0.085$ s; $Q(\beta^-)=13690$ SY; $\% \beta^-$ decay=100.0

$^{84}\text{Ga}-Q(\beta^-)$: 13690 400 (syst,[2009AuZZ](#)). Other: 14140 500 (syst,[2003Au03](#)).

$^{84}\text{Ga}-\% \beta^-$ decay: $\% \beta^- = 100$, $\% \beta^- n = ?$

[2009LeZZ](#): U(γ ,F), $E=50$ MeV, fission fragments were mass separated and implanted on a tape system, measured γ , $\beta\gamma$. The authors of this work propose two levels for ^{84}Ga on the basis of the gamma intensities in ^{84}Ge β^- and ^{84}Ga $\beta^- n$ decays.

[2009LeZZ](#) is now published as Phys. Rev. C 80, 044308 (2009). The data in the published version are identical to those in preprint.

[Additional information 1](#).

 ^{84}Ge Levels

| E(level) | J^π | Comments |
|------------|---------|---|
| 0.0 | 0^+ | |
| 624.3 7 | (2^+) | |
| 1670.4? 10 | (4^+) | E(level): level treated as tentative (evaluators) since $\gamma\gamma$ coin evidence for 1046-624 cascade is lacking. In reference 8 quoted by 2009LeZZ , one of the possible assignment of 1046 γ is in ^{83}Ge nuclide from ^{84}Ga delayed neutron decay, although, this possibility is considered as less likely by 2009LeZZ . |

 β^- radiations

| E(decay) | E(level) | $I_{\beta^-}^{\dagger\ddagger}$ | $\text{Log } f_i^{\dagger}$ | Comments |
|-------------|----------|---------------------------------|-----------------------------|---------------------|
| (12019 SY) | 1670.4? | ≈ 90 | ≈ 4.8 | av $E\beta=5644$ |
| (13065# SY) | 624.3 | < 10 | > 5.9 | av $E\beta=6148$ 24 |

\dagger First order estimated values, assuming that most the decay feeds the 1670 level.

\ddagger Absolute intensity per 100 decays.

Existence of this branch is questionable.

 $\gamma(^{84}\text{Ge})$

| E_γ^{\dagger} | I_γ^{\dagger} | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Comments |
|----------------------|----------------------|---------------------|-----------|-------|-----------|---|
| 624.3 7 | 38 5 | 624.3 | (2^+) | 0.0 | 0^+ | |
| 1046.1 7 | 42 6 | 1670.4? | (4^+) | 624.3 | (2^+) | E_γ : from 2009LeZZ . a gamma ray at 1045 keV is clearly seen by 2009Gr06 , yet it was not placed on the decay scheme. |

\dagger From [2009LeZZ](#). Intensities are normalized to 100 for 247.8 γ from ^{84}Ga $\beta^- n$ decay to ^{83}Ge .

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Decay Scheme

Intensities: Relative I_γ

Legend

