

$^{63}\text{V}$   $\beta^-$ -n decay (19.6 ms)    [2003So02](#)

| Type            | Author                                          | History | Citation         | Literature Cutoff Date |
|-----------------|-------------------------------------------------|---------|------------------|------------------------|
| Full Evaluation | Balraj Singh, Huang Xiaolong, and Wang Xianghan |         | NDS 204,1 (2025) | 30-Jun-2023            |

Parent:  $^{63}\text{V}$ :  $E=0$ ;  $J^\pi=(3/2^-, 5/2^-)$ ;  $T_{1/2}=19.6$  ms *10*;  $Q(\beta^- \text{n})=1104 \times 10^1$  *34*;  $\% \beta^- \text{n decay} > 35$

$^{63}\text{V}$ - $J^\pi$ : Proposed by [2014Su07](#), and adopted by [2021Ko07](#).

$^{63}\text{V}$ - $T_{1/2}$ : From weighted average of 20 ms *1* ([2014Su07](#),  $\beta$  decay curve, at NSCL-MSU); 19.2 ms *24* ([2011Da08](#), correlated implants- $\beta$  decay at GANIL); 17 ms *3* ([2003So02](#), correlated implants- $\beta$  decay at GANIL by a different research group than [2011Da08](#)).

$^{63}\text{V}$ - $Q(\beta^- \text{n})$ : From [2021Wa16](#).

$^{63}\text{V}$ - $\% \beta^- \text{n decay}$ :  $\% \beta^- \text{n} > 35$  ([2003So02](#)).

[2003So02](#) (also [2002MaZN](#) thesis, [2005Ga01](#)):  $^{63}\text{V}$  produced in  $^{58}\text{Ni}(^{76}\text{Ge}, \text{X})$ ,  $E=61.8$  MeV/nucleon at GANIL facility using LISE3 doubly achromatic spectrometer. Measured  $\beta$ ,  $\gamma$ , isotopic half-life from  $\beta$  decay timing.

[1997Be70](#):  $^{63}\text{V}$  first identified in  $^9\text{Be}(^{238}\text{U}, \text{F})$ ,  $E=750$  MeV/nucleon at GSI facility, identification by energy loss and time-of-flight.

 $^{62}\text{Cr}$  Levels

| E(level)     | $J^\pi$ <sup>†</sup> | $T_{1/2}$ <sup>†</sup> |
|--------------|----------------------|------------------------|
| 0            | $0^+$                | 200 ms <i>12</i>       |
| 446 <i>1</i> | $2^+$                | 93 ps <i>9</i>         |

<sup>†</sup> from the Adopted Levels.

 $\gamma(^{62}\text{Cr})$ 

| $E_\gamma$   | $E_i(\text{level})$ | $J_i^\pi$ | $E_f$ | $J_f^\pi$ |
|--------------|---------------------|-----------|-------|-----------|
| 446 <i>1</i> | 446                 | $2^+$     | 0     | $0^+$     |

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Decay Scheme

