

^{62}Fe β^- decay (68 s) [1975Fr16](#)

Type	Author	History	Citation	Literature Cutoff Date
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Parent: ^{62}Fe : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=68$ s 2; $Q(\beta^-)=2553$ 20; $\% \beta^-$ decay=100.0

^{62}Fe - $T_{1/2}$: From ^{62}Fe Adopted Levels.

^{62}Fe - $Q(\beta^-)$: From [2011AuZZ](#), [2003Au03](#) give 2531 25.

[1975Fr16](#): ^{62}Fe source from $^{64}\text{Ni}(n,2pn)$ $E=25$ -200 MeV. Chemical separation. Measured E_γ , I_γ , $\beta\gamma$ coin.

Total decay energy of 2553 keV 17 deduced (by RADLIST code) from proposed decay scheme is in agreement with the expected value of 2553 keV 20, indicating that decay scheme is complete.

 ^{62}Co Levels

E(level)	$J^\pi^\dagger$	$T_{1/2}^\dagger$
0.0	$(2)^+$	1.50 min 4
506.1 1	1^+	

† From Adopted Levels.

 β^- radiations

E(decay)	E(level)	$I\beta^-^\dagger$	Log ft	Comments
(2047 20)	506.1	≈ 100	≈ 4.1	av $E\beta=$ 826 12 E(decay): measured E(end point)=2.5 MeV 2 from (506 γ) β coin (1975Fr16). Leads to $Q(\beta^-)=3.0$ MeV 2, in disagreement with 2553 20 in 2011AuZZ and 2531 25 in 2003Au03 . av $E\beta=1050$ 95 if $Q(\beta^-)=3.0$ MeV 2. $I\beta^-$: based on $I_\gamma(506)$. Log ft : 4.5 2 if $Q(\beta^-)=3.0$ MeV 2.

† Absolute intensity per 100 decays.

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

I_γ normalization: $I_\gamma(506\gamma)/I_\gamma$ of 1173 γ (from ^{62}Co decay) ≈ 1 ([1975Fr16](#)), thus 506 γ carries almost all the γ intensity from ^{62}Fe decay.

E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
506.1 1	≈ 100	506.1	1^+	0.0	$(2)^+$	I_γ : $I_\gamma(506\gamma)/I_\gamma$ of 1173 γ (from ^{62}Co decay) ≈ 1 (1975Fr16).

† Absolute intensity per 100 decays.

$^{62}\text{Fe} \beta^-$ decay (68 s) 1975Fr16

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

