

^{59}Cr β^- decay 2005Li53,1988Bo06

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 151, 1 (2018)	1-Apr-2018

Parent: ^{59}Cr : $E=0.0$; $J^\pi=(1/2^-)$; $T_{1/2}=0.74$ s 28; $Q(\beta^-)=7.44\times 10^3$ 21; % β^- decay=100.0

Other: 1985Bo49.

2005Li53: ^{59}Cr isotope produced in fragmentation of $^{86}\text{Kr}^{34+}$ beam in a Be target. Secondary fragments were selected using the A1900 fragment separator. Fragment identification was performed by a combination of multiple energy-loss signals and time of flight.

Measured E_γ , I_γ , $\gamma\gamma$, $\gamma\beta(t)$, half-life with 12 Ge detectors from the MSU segmented Ge array and double-sided Si microstrip detector.

1988Bo06,1985Bo49: ^{59}Cr from on-line mass separation of products from $\text{W}(^{76}\text{Ge},X\gamma)$; $E=11.5$ MeV/nucleon; Measured: E_γ , I_γ , $\beta\gamma$ and $\gamma\gamma$ coin, $\beta\gamma(t)$.

 ^{59}Mn Levels

<u>E(level)[†]</u>	<u>J^π[‡]</u>
0.0	$5/2^-$
111.6 4	$7/2^-$
1237.8 4	
1900.0 4	

[†] From least-squares fit to E_γ 's; $\Delta E_\gamma=0.5$ keV assumed for γ rays with missing uncertainty.

[‡] From Adopted Levels.

 $\gamma(^{59}\text{Mn})$

<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Comments</u>
112.1 4	8 2	111.6	$7/2^-$	0.0	$5/2^-$	E_γ, I_γ : From 1988Bo06. Other: 111.8 keV and 10 (2005Li53).
662.6	9	1900.0		1237.8		
1126.5	6	1237.8		111.6	$7/2^-$	
1238.6 9	100 11	1237.8		0.0	$5/2^-$	E_γ, I_γ : From 1988Bo06. Other: 1238.0 keV and 100 (2005Li53).
1899.5	22	1900.0		0.0	$5/2^-$	

[†] From 2005Li53, except otherwise noted.

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Decay Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- Coincidence

