

<sup>45</sup>Cr εp decay (60.9 ms) 2007Do17

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 190,1 (2023)	20-Jun-2023

Parent: <sup>45</sup>Cr: E=0; J<sup>π</sup>=7/2<sup>-</sup>; T<sub>1/2</sub>=60.9 ms 4; Q(εp)=10740 40; %εp decay=34.4 8

<sup>45</sup>Cr-Q(εp): From 2021Wa16.

<sup>45</sup>Cr-T<sub>1/2</sub>: Measured by 2007Do17.

<sup>45</sup>Cr-%εp decay: Measured by 2007Do17.

2007Do17: <sup>45</sup>Cr isotope produced by fragmentation of 74.5 MeV/nucleon <sup>58</sup>Ni beam on natural Ni target at SISSE/LISE3 facility in GANIL. Fragments separated by the α-LISE3 separator and identified by energy loss, residual energy and time-of-flight.

Double-sided silicon strip detectors (DSSSDs) and a thick Si(Li) detector for detecting protons and four Ge detectors for detecting γ-rays. Measured E<sub>γ</sub>, pγ-coin. Deduced levels, T<sub>1/2</sub>.

Others:

1985ReZW: Activity of <sup>45</sup>Cr produced from Ca(<sup>14</sup>N,X) and Ca(<sup>3</sup>He,X). Measured β-delayed Ep, Ip, proton yields.

1987Ki14: Activity of <sup>45</sup>Cr produced from <sup>12</sup>C(<sup>40</sup>Ca, X). Measured residue yields, isotope separation efficiencies.

All data from 2007Do17, unless otherwise noted.

<sup>44</sup>Ti Levels

E(level)	J <sup>π</sup> †	T <sub>1/2</sub> †
0.0	0 <sup>+</sup>	59.1 y 3
1083.3 1	2 <sup>+</sup>	2.57 ps 37
2453.3 5	4 <sup>+</sup>	0.433 ps 35

† From the Adopted Levels.

γ(<sup>44</sup>Ti)

E <sub>γ</sub>	I <sub>γ</sub> ‡	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.†
1083.3 1	27.7 23	1083.3	2 <sup>+</sup>	0.0	0 <sup>+</sup>	E2
1370.0 5	2.1 2	2453.3	4 <sup>+</sup>	1083.3	2 <sup>+</sup>	E2

† From the Adopted Gammas.

‡ Absolute intensity per 100 decays.

Delayed Protons (<sup>44</sup>Ti)

E(p)†	E( <sup>44</sup> Ti)	I(p)‡	E( <sup>45</sup> V)
945 31		0.4 3	
1303 25		0.5 2	
1468 27		0.4 2	
1609 28		0.4 2	
2087 9	1083.3	19.6 15	4790

† The proton energies are in the center-of-mass system.

‡ Absolute intensity per 100 decays.

${}^{45}\text{Cr}$   $\epsilon\text{p}$  decay (60.9 ms) 2007Do17

## Decay Scheme

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

I(p) Intensities: I(p) per 100 parent decays

