

$^{44}\text{S}$   $\beta^-$  decay (117 ms) 2022Tr03,1995So03

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

Parent:  $^{44}\text{S}$ :  $E=0.0$ ;  $J^\pi=0^+$ ;  $T_{1/2}=117$  ms 6;  $Q(\beta^-)=11270$  90;  $\% \beta^-$  decay=100

$^{44}\text{S}$ - $Q(\beta^-)$ : From 2021Wa16.

$^{44}\text{S}$ - $T_{1/2}$ : From  $^{44}\text{S}$  Adopted Levels.

$^{44}\text{S}$ - $\% \beta^-$  decay:  $\% \beta^- = 100$ ,  $\% \beta^- n = 29$  7.

$^{44}\text{S}$  identified in  $^{64}\text{Ni}(^{48}\text{Ca}, X)$   $E=60$  MeV/nucleon (1995So03,1993So06). Other reaction:  $^{181}\text{Ta}(^{48}\text{Ca}, X)$  1989Le16.

2022Tr03:  $^{44}\text{S}$  produced in  $^9\text{Be}(^{48}\text{Ca}, X)$ ,  $E(^{48}\text{Ca})=140$  MeV/nucleon, and reaction products separated by A1900 fragment separator at the NSCL-MSU facility. Selected isotopes were transported to the Beta Counting System (BCS) consisting of Double-Sided Silicon Strip Detector (DSSD), two Si PIN detectors, and 16 Clover HPGe detectors. Measured half-life of the decay of  $^{44}\text{S}$ ,  $\% \beta^- n$  for the decay of  $^{44}\text{S}$  by following the decay chain of  $^{44}\text{S}$  through  $\beta^-$  and  $\beta^- n$  decay daughters,  $E_\gamma$ .

$^{44}\text{S}$  also decays to  $^{43}\text{Cl}$  by  $\% \beta^- n = 29$  7.

The decay scheme is from 2022Tr03.

 $^{44}\text{Cl}$  Levels

E(level)	$J^\pi$	Comments
0.0	(2 <sup>-</sup> )	
891		
1000		
2789 1	(1 <sup>+</sup> )	$J^\pi$ : Gamow-Teller $\beta$ transition from 0 <sup>+</sup> parent (2022Tr03).

 $\gamma(^{44}\text{Cl})$ 

$I_\gamma$  normalization: 2022Tr03 give intensities/100 decays of  $^{44}\text{S}$ .

$E_\gamma^\dagger$	$I_\gamma^{\ddagger}$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
891	1.4 5	891		0.0	(2 <sup>-</sup> )
1000	3.6 10	1000		0.0	(2 <sup>-</sup> )
2789 1	41 4	2789	(1 <sup>+</sup> )	0.0	(2 <sup>-</sup> )

<sup>†</sup> From 2022Tr03.

<sup>‡</sup> Absolute intensity per 100 decays.

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## Decay Scheme

Intensities:  $I_\gamma$  per 100 parent decays

Legend

