^{43}Cr ε2p decay (21.2 ms) 2012Au08,2011Po01,2007Do17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan	NDS 133, 1 (2016)	30-Sep-2015

Parent: ^{43}Cr: E=0.0; J^π=(3/2$^+$); $T_{1/2}$=21.2 ms *7*; Q(ε2p)=11770 *SY*; %ε2p decay=11.6 *10*

^{43}Cr-Q(ε2p): deduced by evaluators from Q(β^+) for ^{43}Cr=15620 syst *400* and S(2p) for ^{43}V=3850 *40*, with both values from 2012Wa38.

^{43}Cr-%ε2p decay: %ε2p=11.6 *10* (2012Au08) deduced by authors from relative β2p branching 12.7 % *10* (2012Au08) and total proton branching 91.0% *23* (weighted average of 92.5% *28* (2007Do17) and 88% *4* (2011Po01). Others: 7.1 *4* (2011Po01), 6 *5* (1992Bo37).

2012Au08: ^{43}Cr activity from fragmentation of ^{58}Ni beam with E=75 MeV/nucleon on a natural Ni target. Ions separated with the LISE3 spectrometer and identified through measurements of magnetic rigidity, energy loss and velocity using two silicon detectors and micro-channel plate detectors. Measured %branching and energy sharing between the two proton emission using a time projection chamber.

2011Po01: ^{43}Cr activity from fragmentation of ^{58}Ni beam with E=161 MeV/nucleon on a natural Ni target. Products selected with the A1900 fragment separator and identified through time-of-flight and energy loss measurements. Measured two proton decay, %branching using an optical time projection chamber.

Others: 2007Do17, 2001Gi01 (also 2001Gi02), 1992Bo37.

Total energy of the emitted two protons has been measured as 4246 *15* (2007Do17) and 4292 *22* (2001Gi01).

2012Au08 find a ratio of 34%−66% of the total energy for each proton and an isotopic distribution for the relative angle between the two emitted protons. Both of these results support a sequential emission of protons via intermediate states in ^{42}Ti.

^{41}Sc Levels

E(level)	J^π†	$T_{1/2}$†
0	7/2$^-$	596.3 ms *17*

† From the Adopted Levels.