^{74}Ni β^- decay (507.7 ms) 1998Fr15,1998Am04,1990Be13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	31-Mar-2017

Parent: ^{74}Ni: E=0.0; $J^\pi=0^+$; $T_{1/2}$=507.7 ms *46*; Q(β^-)=7550 *SY*; %β^- decay=100.0

^{74}Ni-Q(β^-): 7550 *200* (syst,2017Wa10).

^{74}Ni-$T_{1/2}$: From ^{74}Ni Adopted Levels.

^{74}Ni first identified by 1987Ar21 and 1990Be13 in ^{235}U(n,F) reaction at E=thermal reaction. 1998Am04 used ^{9}Be(^{86}Kr,X) at 500 MeV/nucleon to produce ^{74}Ni and measure half-life. 1998Fr15 (also 2002Kr13, 2001Fr21, 2000Mu10, 1998FrZY): ^{238}U(p,F) at 30 MeV to measure half-life and yield of ^{74}Ni.

Yield of ^{74}Ni in ^{238}U(p,F) E=30 MeV: 2002Kr13, 2001Fr21, 2000Mu10.

Precise measurement of $T_{1/2}$ for ^{74}Ni decay: 2014Xu07 (see also 2014XuZZ).

^{74}Cu Levels

E(level)	J^π	Comments
0	2^-	Assumed that g.s. is populated in β^- decay of ^{74}Ni.

$\gamma(^{74}Cu)$

E_γ	E_i(level)
^{x}166.1† *1*	
^{x}694.3† *2*	

† In $\beta\gamma$ and $\gamma\gamma$ studies of ^{74}Cu decay, 1998Fr15 reported two most intense γ rays at 166.1 *1* and 694.3 *2*, forming a cascade. These γ rays feed levels either in ^{74}Cu through β^- decay or in ^{73}Cu through β^-n decay. The latter possibility, however, seems less likely (1998Fr15) since the γ-ray intensities imply %β^-n=30, much higher than the theoretical value of 2.3% (2003Mo09).

^{x} γ ray not placed in level scheme.