^{238}U(p,X) 2022Po02,2009Pa16

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

Adapted from the XUNDL dataset for 2022Po02, compiled by E.A. McCutchan (NNDC,BNL), on May 3, 2022.

2022Po02: ^{65}Fe source was produced via U(p,X) with E=480 MeV proton beam from the ISAC facility at TRIUMF on a UC_x target and transported to the TRIUMF′s Ion Trap for Atomic and Nuclear science (TITAN). Measured masses of the ground state and isomer using the multiple-reflection time-of-flight mass spectrometer (MR-TOF-MS).

2009Pa16: E=30 MeV proton was produced from the Cyclotron Research Center (CRC) at Louvain-La-Neuve (Belgium). Target was 10 mg/cm^2 ^{238}U in a gas catcher. γ rays were detected with two MINIBALL detector and β particles were detected with three thin plastic scintillators. Measured Eγ, Iγ, Eβ, $\beta\gamma$(t) from ^{65}Fe decay. Deduced $T_{1/2}$ of ^{65}Fe g.s. and isomer.

^{65}Fe Levels

E(level)	J^{π}[†]	$T_{1/2}$[‡]	Comments
0	$(1/2^-)$	0.81 s *5*	Measured mass excess=−51218.7 keV *84* (2022Po02). Configuration=$\pi f_{7/2}^{-2}\otimes\nu p_{1/2}^{-1}$ (2009Pa16).
397 *12*	$(9/2^+)$	1.12 s *15*	E(level): from difference between measured mass excesses of g.s. and isomer. Measured mass excess=−50821.4 keV *77* (2022Po02).

[†] From Adopted Levels.

[‡] From $\beta\gamma$(t) in 2009Pa16.