^{9}Be(^{86}Kr,X) 2015Li33

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 207,1 (2026)	1-Apr-2023

Includes Ta(^{86}Kr,X).

2015Li33: ^{69}Fe produced by projectile fragmentation of ^{86}Kr beam on ^{9}Be target at 140 MeV/nucleon beam using the Coupled Cyclotron facility at the NSCL-MSU facility. The fragmentation products were separated using the A1900 fragment separator. They were then identified and delivered to the Beta Counting System surrounded by the Segmented Germanium Array (SeGA) where the β and γ radiation were detected. Ten γ rays (250, 291, 446, 648, 663, 680, 880, 1105, 1582 and 1886 keV) as listed in Figure 2b of 2015Li33 from the decay of ^{69}Fe to ^{69}Co were observed. Measured half-life by time distribution of β particles detected in correlation with implanted ^{69}Fe ions and gammas.

2013Ma87: ^{69}Fe produced by projectile fragmentation of ^{86}Kr beam on ^{9}Be target at 140 MeV/nucleon beam using the Coupled Cyclotron facility at the NSCL-MSU facility. The fragmentation products were separated using the A1900 fragment separator and implanted on a DSSD located within the NSCL β-counting system. Identification was done by tof and energy loss method. Detected β and γ radiation by NSCL beta counting system. Measured half-life by time distribution of β particles detected in correlation with implanted ^{69}Fe ions. The $\beta\gamma$ coincidence event in correlation with ^{69}Fe implants were also detected, but the statistics were very low. Comparison were made with calculations using FRDM+QRPA and Df3a++CQRPA.

2011Da08,2002MaZN (thesis):^{69}Fe produced by projectile fragmentation of ^{86}Kr beam on 50 mg/cm^2 thick Ta at 57.8 MeV/nucleon. Separated by LISE2000 spectrometer at GANIL. Detector system included a three-element Si-detector telescope containing a double-sided silicon-strip detector (DSSD) backed by a Si(Li) detector and surrounded by four clover type EXOGAM Ge detectors. Product identified by mass, atomic number, charge, energy loss and time of flight. Measured isotopic $T_{1/2}$ from timing correlation between implanted ions and β decay events. Fitting procedure included five parameters: β-detection efficiency, background rate, mother, daughter and granddaughter half-lives.

1998Am04,1997AmZZ: Produced by fragmentation of ^{86}Kr beam on a Be target at 500 MeV/nucleon. Fission fragments separated with the FRS separator at GSI and identified by combination of Bρ, Z, and tof techniques. Measured isotopic $T_{1/2}$ from timing correlations of implanted fragments and β decay.

1992We04: Produced by fragmentation of ^{86}Kr beam on a Be target at 500 MeV/nucleon. Isotope identification by the fragment separator FRS at GSI in combination with tof and energy-loss measurements. A total of 12 counts were assigned to ^{69}Fe corresponding to cross section of 2.5 nanobarns with an uncertainty of 80%.

^{69}Fe Levels

E(level)	$T_{1/2}$	Comments
0.0	162 ms *7*	$T_{1/2}$: From time distribution of $\beta\gamma$(^{69}Fe implant) correlated events (2015Li33), using three most intense γ rays of 250, 291 and 446 keV. 2015Li33 state that if γ coincidence requirement is removed, half-life is close to 102 ms *10* from previous work at NSCL-MSU by 2013Ma87. Others: 102 ms *10* (2013Ma87) and 110 ms *6* (2011Da08).