^{9}Be(^{32}S,Xγ) 2011Fo08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty	NDS 205,1 (2025)	31-May-2025

Additional information 1.

Adapted/Edited the XUNDL data set compiled by B. Singh (McMaster), Oct 20, 2011.

Search for ^{25}P nuclide and its possible proton decay mode was made.

E=50.3 MeV/nucleon ^{32}S beam from U400M cyclotron bombarded a ^{9}Be target of 92.4 mg/cm^2 thickness. Fragments were separated by ACCULINNA fragment separator at JINR, Dubna. Time-of-flight-ΔE and ΔE-E techniques using plastic scintillators and Si strip detectors were used to identify the fragments. The fragment separator was sequentially tuned for optimum transmission of ^{26}S, ^{27}S, ^{28}S, and ^{29}S. Total time of flight through the separator was 314-322 ns. From systematics of fragmentation cross sections, the expected events due to ^{25}P are 360 *+85−70*, but no events could be ascribed to this nuclide in the concerned experiment.

^{25}P Levels

E(level)	$T_{1/2}$	Comments
0?	<38 ns	$T_{1/2}$: from 2011Fo08; estimated (with 63% confidence level) from flight time of 314-322 ns, Poisson statistics of the observed distribution (2011Fo08) of one to four events. At 98% confidence level, the estimation gives $T_{1/2}$<50 ns (2011Fo08). Others: <30 ns (1996PoZZ).