^{9}Be(^{76}Ge,Xγ) 2014Su11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178, 41 (2021).	12-Nov-2021

2014Su11: ^{64}V produced at the NSCL-MSU facility by the fragmentation of 130 MeV/nucleon ^{76}Ge beam impinging on ^{9}Be target. Products were selected by the A1900 fragment separator and identified by time of flight and energy loss information, then delivered to β counting system (BCS) surrounded by SeGA Ge array for γ-ray detection. The ^{64}V ions were finally stopped in 1 mm thick DSSD which detected β particles. Measured Eγ, (^{64}V)γ-coin, $\beta\gamma$-correlated spectra. Deduced levels, half-life, and an isomer in ^{64}V.

^{64}V Levels

E(level)	J$^{\pi}$	T$_{1/2}$	Comments
0.0	(0,1,2)	15 ms *2*	No γ rays observed which could be assigned to β-delayed neutron decay mode. J$^{\pi}$: proposed by 2014Su11 based on non-observation of β feeding of a known 4^{+} state in ^{64}Cr. T$_{1/2}$: from 2014Su11, β decay curve fitted with known half-lives of ^{64}Cr and ^{64}Mn and a constant background. Contribution from β^{-}n decay mode was not included due to absence of any γ rays from β-delayed neutron emission of ^{64}V.
81.0 *7*		<1 μs	%IT≈100 T$_{1/2}$: from 2014Su11, delayed γ rays measured 300 ns after implantation of ^{64}V ions, thus T$_{1/2}$ may be greater than 100 ns or so.

γ(^{64}V)

E$_{\gamma}$	E$_i$(level)	E$_f$	J$^{\pi}_f$	Comments
81.0 *7*	81.0	0.0	(0,1,2)	E$_{\gamma}$: observed as a delayed transition within a 10−μs time window; the γ rays were detected at least 300 ns after the ion implantation. It is assumed that 81-keV transition feeds the ground state, there does not seem any experimental evidence provided by 2014Su11.

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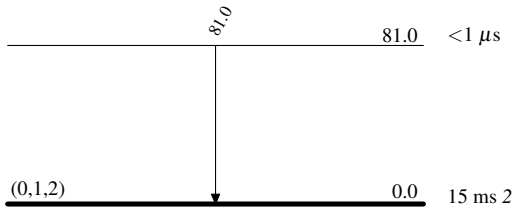
Level Scheme



$^{64}_{23}V_{41}$