^{9}Be(^{18}O,P2A)   1982Ol01

	History		
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	R. Spitzer, J. H. Kelley	ENSDF	30-Jun-2021

1982Ol01: ^{9}Be(^{18}O,p2α) was used to produce ^{18}N at the entrance window of a cylindrical 1.5 cm by 13 cm 1.7 atm helium-filled gas cell at BNL. The ^{18}N was stopped in the gas and transferred to a counting area where decays to ^{18}O were observed. Branching ratios to ^{18}O states were determined. Analysis, including the assumption of 15% decay to non-γ-emitting states, determines $J^{\pi}=1^{-}$ for ^{18}N$_{g.s.}$. Additionally, $T_{1/2}$=624 ms *12* was determined.

2003Fr32: ^{9}Be(^{18}O,p2α) at 80 MeV/nucleon was used to produce ^{18}N at the NSCL/A1200. The ^{18}N ions were implanted into a stack of four ΔE-ΔE-ΔE-E detectors; most ions stopped in the the first three detectors. A 120% efficiency HPGe detector at θ=90° measured the β-delayed γ emissions from ^{18}N decay to ^{18}O. The K1200 cyclotron *rf* was dephased for a second with a two second periodicity so that implanted ions were identified and counted on an event-by-event basis in the first second, and the decay radiations were measured in the final second. A redundant set of amplifiers readout the Si detectors in the counting period, permitting a measurement of β-delayed α particles. The branching ratio to γ-emitting states in ^{18}O* was determined as 76.7% *72*(stat.) *55*(sys.); the branch to ^{18}O$_{g.s.}$ is estimated as 2.6% (1982Ol01).

Further discussion on $\beta^{-}\alpha$ (12.2 *6*)% from (1989Zh04) and β^{-}n (12.0 *13*)% from (1994ReZZ: update of 2001Re03) is given. The authors indicate their value is consistent with these results.

^{18}N Levels

E(level)[†]	J$^{\pi}$[†]	T$_{1/2}$[†]
0	1^{-}	624 ms *12*

[†] From (1982Ol01).