Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 111,1093 (2010)	3-Mar-2009

$Q(\beta^-)=1.89\times10^4$ *syst*; $S(n)=2.0\times10^3$ *syst*   2012Wa38

Note: Current evaluation has used the following Q record 18510   calc 2400 calc 18700 calc -16920 calc   1997Mo25.
$S(2n)=7080$ (1997Mo25).

2009Ta05: ^{66}V identified by fragmentation of ^{76}Ge beam at 132 MeV/nucleon at NSCL facility using A1900 fragment separator combined with S800 analysis beam line to form a two stage separator system. The transmitted fragments were analyzed event-by-event in momentum and particle identification. The nuclei of interest were stopped in eight Si diodes which provided measurement of energy loss, nuclear charge and total kinetic energy. The time-of-flight of each particle that reached the detector stack was measured in four different ways using plastic scintillators, Si detectors, and parallel-plate avalanche counters. The simultaneous measurement of ΔE signals, the magnetic rigidity, total kinetic energy and the time-of-flight (tof) provided unambiguous identification of the atomic number, charge state and mass number.

^{66}V Levels

E(level)	$T_{1/2}$	Comments
0	>360 ns	$\%\beta^-=?$; $\%\beta^-n=?$

Measured cross section=8×10^{-12} mb $+4-6$ (read by the evaluator from figure 2 of 2009Ta05, which shows cross-sections as a function of Q(g) (the difference in mass excess of the beam particle and the observed fragment)).

E(level): fragment observed by 2009Ta05 is assumed to be in the ground state of ^{66}V.

J^π: $3/2^-$ proton and $3/2^+$ neutron orbital (predicted,1997Mo25).

$T_{1/2}$: lower limit estimated from time-of-flight of ≈360 ns as in 2005St29 (from the same lab as 2009Ta05). Actual half-life is expected to be much longer as suggested by calculated value of 8 ms (1997Mo25).

Calculated (1997Mo25) populations of daughter nuclides: 46% for 66Cr, 16% for 65Cr through β^-n decay and 38% for ^{64}Cr through β^-2n decay.