Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	31-Jul-2016

S(n)=17120 *CA*; S(p)=−1510 *SY*; Q(α)=−2660 *SY* 2012Wa38,1997Mo25
Estimated uncertainties (2012Wa38): 710 for S(p), 620 for Q(α).
S(p) and Q(α) from 2012Wa38, S(n) from 1997Mo25.
S(2p)=2050 *640*, Q(εp)=9440 *500* (syst,2012Wa38). S(2n)=31850 (theory,1997Mo25).
The ^{93}Ag isotope is expected to be unbound towards proton emission.
1994He28: a few events (≈4 per 10^{14} ^{106}Cd ions) were tentatively assigned to ^{93}Ag in Ni(^{106}Cd,X),E=60 MeV/nucleon using projectile fragment separator at NSCL-MSU facility; however, the attribution of these events to contamination from neighboring peaks in the Z and Q spectra could not be ruled out. The flight time through the separator, was on the order of 150 ns.
1995Ry03: few events were very tentatively assigned to ^{93}Ag in Ni(^{112}Sn,X),E=58,62 MeV/nucleon using LISE3 separator at GANIL. Time of flight was ≈1.5 μs.
2008KrZW: ^{93}Ag from fragmentation of 1 GeV/nucleon ^{124}Xe beam; fragment recoil separator at GSI; ΔE, tof and magnetic rigidity measurements used for fragment identification; fragments stopped in Si implantation detector and β absorber (SIMBA).
2016Ce02: ^{93}Ag nuclide produced and identified at RIBF-RIKEN facility in ^{9}Be(^{124}Xe,X) reaction at E=345 MeV/nucleon with an average beam intensity of 30 pnA. Identification of ^{93}Ag was made by determining atomic Z and mass-to-charge ratio A/Q, where Q=charge state of the ions. The selectivity of ions was based on magnetic rigidity, time-of-flight and energy loss using BigRIPS separator and zero degree spectrometer ZDS. The separated nuclei were implanted in a wide range silicon-strip stopper array for ion and β particle detection WAS3ABi, consisting of three highly-segmented 1 mm thick double-sided silicon detectors, a stack of ten segmented 1 mm thick single-sided silicon strip detectors. The γ rays were detected by EURICA array of 84 HPGe detectors surrounding the WAS3ABi system. In addition an array of 18 $LaBr_3$(Ce) detectors was used for γ detection in fast-timing measurements. A total of 31 events were assigned to ^{93}Ag. 2015MoZZ is a conference report from the same group as 2016Ce02.
Theoretical calculations of g.s. properties: 1997He24 (shell model), 2001Pa02 (relativistic mean field), 2001La01, 2002La37 (relativistic Hartree-Bogoliubov theory).

^{93}Ag Levels

E(level)	$T_{1/2}$	Comments
0	228 ns *16*	%p=?; %ε+%$β^+$=?; %εp=? A total of 31 events were assigned to ^{93}Ag by 2016Ce02, which are assumed to correspond to the g.s. activity of ^{93}Ag. Dominant proton decay mode of ^{93}Ag is expected from S(p)=−1510 keV *710* (syst, 2012Wa38). Significant drop in number of observed counts for ^{93}Ag with respect to neighboring isotopes with the same T_z value shows with 10σ confidence level that ^{93}Ag is proton emitter with $T_{1/2}$ lower than or comparable to time-of-flight through the separator (2016Ce02). Measured production σ=3.3 pb *2* (2016Ce02). J^π: $9/2^+$ proposed from systematics (2012Au07), $7/2^+$ in 1997Mo25 theoretical calculations. $T_{1/2}$: from 2016Ce02, based on assignment of 31 events to ^{93}Ag and measured time-of-flight, with the assumption that ratio of number of identified events associated with nuclei of the same T_z is the same as that for the neighboring T_z nuclei. For half-life of ^{93}Ag, N(^{95}Cd)/N(^{93}Ag)=N(^{96}Cd)/N(^{94}Ag) was used, with T_z=−1/2 for ^{93}Ag and ^{95}Cd and T_z=0 for ^{94}Ag and ^{96}Cd. Other: ≈1.5 μs (1995Ry03). $T_{1/2}$: theoretical β-decay $T_{1/2}$=94 ms (1997Mo25). Systematic β-decay $T_{1/2}$=5 ms (2012Au07).