Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	20-Jul-2015

Q(β^-)=9760 *SY*; S(n)=5440 *SY*; S(p)=17520 *CA*; Q(α)=−11670 *CA* 2012Wa38,1997Mo25
Estimated uncertainties (2012Wa38): 590 for Q(β^-), 640 for S(n).
Q(β^-) and S(n) from 2012Wa38; S(p) and Q(α) from theory (1997Mo25).
S(2n)=8540 *640*, Q(β^-n)=5950 *590*. S(2p)=32760 (1997Mo25,theory).
2010Oh02: ^{122}Ru nuclide identified in Be(^{238}U,F) and Pb(^{238}U,F) reactions with a $^{238}U^{86+}$ beam energy of 345 MeV/nucleon produced by the cascade operation of the RBIF accelerator complex of the linear accelerator RILAC and four cyclotrons RRC, fRC, IRC and SRC. Identification of ^{122}Ru nuclei was made on the basis of magnetic rigidity, time-of-flight and energy loss of the fragments using BigRIPS fragment separator. Experiments performed at RIKEN facility. Based on A/Q spectrum and Z versus A/Q plot, 15 counts were assigned to ^{122}Ru isotope. (Q=charge state).
2015Lo04: ^{122}Ru nuclide produced at RIBF-RIKEN facility in ^{9}Be(^{238}U,F) reaction at E=345 MeV/nucleon with an average intensity of 6×10^{10} ions/s. Identification of ^{122}Ru 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. The separated nuclei were implanted at a rate of 50 ions/s in a stack of eight double-sided silicon-strip detector (WAS3ABi), surrounded by EURICA array of 84 HPGe detectors. Correlations were recorded between the implanted ions and β rays. The half-life of ^{122}Ru isotope was measured from the correlated ion-β decay curves and maximum likelihood analysis technique as described in 2014Xu07. Comparison of measured half-lives with FRDM+QRPA, KTUY+GT2 and DF3+CQRPA theoretical calculations.
2010No01: calculated potential energy surface, levels, S(2n), B(E2).
Additional information 1.
1980Va15: calculated levels, B(E2), magnetic dipole and electric quadrupole moments, S(2n), rms radius.

^{122}Ru Levels

E(level)	J^π	$T_{1/2}$	Comments
0	0^+	25 ms *1*	%β^-=100; %β^-n=?; %β^-2n=? Theoretical $T_{1/2}$=68.6 ms, %β^-n=8.5, %β^-2n=0.0 (2003Mo09). Measured σ=13 pb (2010Oh02), systematic uncertainty≈40%. Probability of misidentification of ^{122}Ru isotope<0.001% (2010Oh02). $T_{1/2}$: measured by 2015Lo04 from (implanted ions)β correlated curves in time and position using maximum likelihood method. See 2015Lo04 for comparison of their experimental value with theoretical values.