Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	31-Jul-2015

Q(β^-)=11140 *SY*; S(n)=3500 *SY*; S(p)=16970 *SY*; Q(α)=−12500 *SY* 2012Wa38
Estimated uncertainties (2012Wa38): ΔQ^-=540, $\Delta S(n)=\Delta S(p)=\Delta Q(\alpha)$=710.
Q(β^-), S(n) and Q(α) from 2012Wa38; S(p) from 1997Mo25.
S(2n)=9360 *640*, Q(β^-n)=5270 *540* (syst, 2012Wa38). S(2p)=32400 (theory, 1997Mo25).
2010Oh02: ^{127}Pd 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 ^{127}Pd 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, 70 counts in one setting and one count in another setting was assigned to ^{127}Pd isotope, Q=charge state.
2015Lo04: ^{127}Pd 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 ^{127}Pd 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 ^{127}Pd 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.
2013Fa08, 2013Zh05: calculated Q values, half-life, %β^-n.
Additional information 1.

^{127}Pd Levels

E(level)	$T_{1/2}$	Comments
0	38 ms *2*	%β^-=100; %β^-n=?; %β^-2n=? Theoretical $T_{1/2}$=210 ms, %β^-n=8.2, %β^-2n=0.0 (2003Mo09). Measured σ=80 pb (2010Oh02), systematic uncertainty ≈40%. Probability of misidentification of ^{127}Pd isotope<0.001%. E(level): measured half-life is assumed to correspond to g.s. of ^{127}Pd. J^π: $3/2^+$ from systematic trend (2012Au07), $11/2^-$ in theoretical predictions of 1997Mo25. $T_{1/2}$: 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.