

Adopted Levels

<u>Type</u>	<u>Author</u>	<u>History Citation</u>	<u>Literature Cutoff Date</u>
Full Evaluation	Jean Blachot	NDS 111, 1471 (2010)	1-May-2009

$Q(\beta^-)=12260$ SY; $S(n)=4310$ SY; $S(p)=13990$ SY; $Q(\alpha)=-9740$ SY [2012Wa38](#)

Estimated uncertainties ([2012Wa38](#)): 500 for $Q(\beta^-)$ and $S(n)$, 810 for $S(p)$ and $Q(\alpha)$.

$S(2n)=7780$ 500, $Q(\beta^-n)=8880$ 450 (syst,[2012Wa38](#)). $S(2p)=6640$ (theory,[1997Mo25](#)).

[1997Be70](#): ^{113}Nb produced and identified in $^9\text{Be}(^{238}\text{U},F)$, $E=750$ MeV/nucleon, followed by on-line fragment separator and time of flight method at GSI facility.

[2015Lo04](#): ^{113}Nb nuclide produced at RIBF-RIKEN facility in $^9\text{Be}(^{238}\text{U},F)$ reaction at $E=345$ MeV/nucleon with an average intensity of 6×10^{10} ions/s. Identification of ^{113}Nb 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 ^{113}Nb 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.

[Additional information 1](#).

 ^{113}Nb Levels

<u>E(level)</u>	<u>$T_{1/2}$</u>	<u>Comments</u>
0	32 ms 4	$\% \beta^- = 100$; $\% \beta^- n = ?$; $\% \beta^- 2n = ?$ Theoretical $T_{1/2} = 50.5$ ms, $\% \beta^- n = 86.5$, $\% \beta^- 2n = 2.1$ (2003Mo09). E(level): measured half-life is assumed to correspond to the ground state of ^{113}Nb . J^π : $5/2^+$ from syst (2012Au07); $1/2^+$ from theoretical predictions (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.