

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

$Q(\beta^-)=8300$  SY;  $S(n)=4470$  SY [2012Wa38](#)

Uncertainties based on syst:  $\Delta Q(\beta^-)=610$ ,  $\Delta S(p)=280$  ([2012Wa38](#)).

$Q(\beta^-n)=4950$  200 ([2012Wa38](#),syst).

[2010Oh02](#):  $^{148}\text{Xe}$  nuclide identified in  $\text{Be}(^{238}\text{U},\text{F})$  and  $\text{Pb}(^{238}\text{U},\text{F})$  reactions with a  $^{238}\text{U}^{86+}$  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  $^{148}\text{Xe}$  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 (Q=charge state), one count was assigned to  $^{148}\text{Xe}$  isotope.

Structure calculations:

[1984Na22](#): calculated equilibrium shapes.

[1986Au02](#): calculated two-neutron separation energies.

[1988So08](#): calculated equilibrium deformation, energy.

[1988Ha24](#): calculated atomic masses.

[1992Na07](#): calculated equilibrium deformation as function of rotational frequency, shape change features.

[1994Ma02](#): calculated levels, energy splitting, transition probabilities.

 $^{148}\text{Xe}$  Levels

E(level)	$J^\pi$	$T_{1/2}$	Comments
0	$0^+$	$>0.4 \mu\text{s}$	$\% \beta^- = ?$ ; $\% \beta^- n = ?$ Measured $\sigma = 70$ pb ( <a href="#">2010Oh02</a> ), systematic uncertainty $\approx 30\%$ . $T_{1/2}$ : lower limit from time-of-flight in <a href="#">2010Oh02</a> , as communicated to B. Singh by T. Kubo (private communication, July 14, 2010). Actual half-life is expected to be much longer as suggested by the calculated values of 123 ms ( <a href="#">1997Mo25</a> ), 126 ms ( <a href="#">2002Pf04</a> ). Probability of misidentification of $^{148}\text{Xe}$ isotope = 0.46% ( <a href="#">2010Oh02</a> ). Calculated $\% \beta^- n = 11.0$ ( <a href="#">1997Mo25</a> ); 9.6 ( <a href="#">2002Pf04</a> ).