Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 158, 1 (2019)	16-May-2019

Q(β^-)=−14130 *SY*; S(n)=15820 *SY*; S(p)=−570 *SY*; Q(α)=−2250 *SY* 2017Wa10

Estimated uncertainties (2017Wa10): 450 for Q(β^-), 540 for S(n), 200 for S(p), 210 for Q(α).

S(2n)=30160 *450*, S(2p)=4160 *200*, Q(εp)=5690 *200* (syst,2017Wa10).

1996Pf01: ^{73}Rb produced in ^{58}Ni(^{78}Kr,X), E=75 MeV/nucleon, tof analysis.

1996Jo17: ^{73}Rb produced in ^{93}Nb(p,X), E=1 GeV; yield measurement.

2005Ro39: deduced mass excess from measurement of mass excess for mirror nucleus ^{73}Kr at ISOLDE-CERN. No events were seen for ^{73}Rb. Deduced upper limit of half-life of ^{73}Rb decay.

2017Su31: ^{9}Be(^{124}Xe,X),E=345 MeV/nucleon. Measured β(fragment) correlated events using BigRIPS and ZeroDegree Spectrometer for the separation and tagging of nuclei by Bρ-TOF-ΔE technique at RIBF-RIKEN facility. The ion beam was implanted into the active silicon stopper WAS3ABi with subsequent detection of β^+, proton-delayed γ-rays by the EURICA HPGe detector array. Deduced upper limit of half-life of ^{73}Rb g.s. decay.

Additional information 1.

^{73}Rb Levels

Cross Reference (XREF) Flags

A ^{73}Sr ε decay (25 ms)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	(3/2$^-$)	<81 ns	A	%ε+%β^+=?; %p=? Evidence for proton decay and unbound character of ^{73}Rb g.s. found by 1996Jo17, but percent decay mode was not deduced. T$_{1/2}$: from 2017Su31. No events, associated with ^{73}Rb decay, were seen by 1996Pf01, 2005Ro39 or 2017Su31. 1996Pf01 estimated T$_{1/2}$<30 ns from EPAX parametrization and expected ≈75 events for ^{73}Rb (based on number of events observed for ^{74}Rb). 2005Ro39 estimated T$_{1/2}$<24 ns. 2017Su31 estimated T$_{1/2}$<81 ns from non-observation of any events associated with ^{73}Rb g.s. decay and comparison with EPAX cross sections, whereas 7730 *130* events were expected. Evaluators prefer a conservative limit of half-life from 2017Su31, as the authors seemed to have better statistics than in 1996Pf01. J$^\pi$: 3/2$^-$ from systematics (1996Pf01). Ω_{proton}=7/2$^+$ (theory,2019Mo01).
3.23×10^3 *20*	(1/2$^-$)		A	%p=100 T=3/2 E(level): deduced from E(p)(lab)=3750 *40* (1993Ba61) in ^{73}Sr εp decay and S(p)(^{73}Rb)=−570 *200* (syst,2017Wa10). J$^\pi$: from 1993Ba61. This level decays by protons to ^{72}Kr g.s.