

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. Browne	NDS 93,846 (2001)	1-May-2001

$Q(\beta^-)=2006$ 9; $S(n)=4056$ 9; $S(p)=7852$ 18; $Q(\alpha)=5283$ 18 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ 1900 SY4100 SY7800 SY5040 syst [1995Au04](#).

$Q(\beta^-)$: $Q(\beta^-)>1695$ from highest level energy observed in ^{223}Rn β^- decay by [1992Ku03](#).

$Q(\alpha)$: from [1997Mo25](#).

Additional information 1.

^{223}Rn activity was produced by spallation of 600-MeV protons on targets of ^{232}Th . Assignment to ^{223}Rn is based on mass separation, on the detection of characteristic Fr K x ray, and of γ rays that had been previously observed in the α decay of ^{227}Ac ([1986Bo35](#),[1992Ku03](#)). Others: [1961Be28](#), [1964Bu02](#).

 ^{223}Rn Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	7/2	24.3 min 4	$\% \beta^- = 100$ $\mu = -0.776$ 8; $Q = +0.80$ $\% \alpha \approx 0.0004$ from systematics of $T_{1/2}(\alpha)$ in ^{217}Rn , ^{219}Rn , and ^{221}Rn . $T_{1/2}$: weighted average of 25.3 min 4 (1992Ku03) and 23.2 min 4 (1986Bo35). Other value: 24 min 2 (1982BrZF). J^π : $J=7/2$, Collinear fast-beam laser spectroscopy (1989Ra17 , 1988NeZZ). <u>Additional information 2.</u> μ : Collinear fast-beam laser spectroscopy (1989Ra17 , 1988NeZZ). Q : Collinear fast-beam laser spectroscopy (no polarization correction) (1989Ra17 , 1988NeZZ). Other value: $Q=0.99$, quoted by 1988Le13 .