

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 125, 201 (2015)	31-Dec-2014

$Q(\beta^-)=11719$ 4; $S(n)=4398$ 4; $S(p)=13940$ SY; $Q(\alpha)=-9783$ SY [2012Wa38](#)
 $\Delta S(p)=298$; $\Delta Q(\alpha)=401$ ([2012Wa38](#)).
 $S(2n)=7772$ 4; $S(2p)=32045$ syst 800; $Q(\beta^-n)=8087$ 3 ([2012Wa38](#)).
[1976Ru01](#), [1980Lu04](#): first production and identification of ^{83}Ga isotope in mass-separated fission studies.
[1986Wa17](#), [1991Kr15](#), [1993Ru01](#): measured half-life and delayed neutron emission probability.
[2006Pe20](#) (also [2007Ib01](#), [2004Ve14](#), [2003Pe18](#)): ^{83}Ga isotope produced by neutron induced fission of ^{238}U . Fission products selected with magnetic mass separator. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ and $\beta\gamma$ coincidences using 4π plastic scintillator and two Ge detectors.
[2009Wi03](#): ^{83}Ga isotope produced in proton induced fission of ^{238}U with $E(p)=54$ MeV. Fission products selected by charge exchange cell followed by a high resolution mass separator, then reaccelerated to 225 MeV. Isotopes identified using a microchannel plate detector (for time signal) and a six segment ion chamber. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ and $\beta\gamma$ coincidences using four HPGe clover detectors and two plastic scintillators. Derived βn emission probability.

 ^{83}Ga Levels

E(level)	$T_{1/2}$	Comments
0	308.1 ms 10	$\% \beta^- = 100$; $\% \beta^- n = 62.8$ 25 (2009Wi03) $\% \beta^- n$: from comparison of absolute intensities of most intense γ rays from nuclei in the $\beta^- n$ branch to the number of ions deposited; weighted average of $\% \beta^- n = 64$ 3 and 61 4 (2009Wi03). Others: 14.9 18 (1993Ru01), 54 7 (1986Wa17), 43 7 (1980Lu04). Uncertainty of 1986Wa17 does not include that of the neutron-efficiency detection. 2002Pf04 compilation adopted $\% \beta^- n = 39$ 10. J^π : $3/2^-$ from systematics (2012Au07), $1/2^-$ in calculations of 1997Mo25 . $T_{1/2}$: weighted average of values from $\gamma(t)$: 0.317 s 17 (1348 γ in ^{82}Ge), 0.319 s 24 (1238 γ in ^{83}Ge) (2006Pe20), and from β^- -delayed neutron activity: 0.307 s 7 (1993Ru01), 0.308 s 1 (1991Kr15), 0.31 s 1 (1986Wa17), 0.31 s 1 (1980Lu04). Other: 0.31 s 1 (1976Ru01).