

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. W. Reich, Balraj Singh	NDS	111,1211 (2010)	12-Apr-2010

$Q(\beta^-)=3281$ 10; $S(n)=5106$ 10; $S(p)=9.91\times 10^3$ 6; $Q(\alpha)=-1531$ 11 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ 3170 70 5270 syst 10130 syst -1700 syst

[2009AuZZ,2007Ha57](#).

$Q(\beta^-)$: From [2007Ha57](#), total-absorption γ spectroscopy, using a BGO detector, followed by on-line isotope separation. From the evaluations of [2009AuZZ](#) and [2003Au03](#), $Q(\beta^-)=3110$ 300, from systematics.

$S(n), S(p), Q(\alpha)$: from [2009AuZZ](#) and [2003Au03](#). The uncertainties, also from systematics, for these quantities are: for $S(n)$, 300; for $S(p)$, 420; and, for $Q(\alpha)$, 310 ([2009AuZZ,2003Au03](#)).

[Additional information 1](#).

Theory (moments and g.s. energy): [1984A130](#).

^{163}Gd produced as a fission fragment ([1982Ge07](#)) from ^{252}Cf SF decay, followed by chemical separation. It was identified by observation ([1982Ge07](#)) of ten γ rays with a common $T_{1/2}$ in the Gd fraction and growth and decay of the ^{163}Tb daughter.

[2006SaZS](#) report five γ rays in ^{163}Gd from the decay of ^{163}Eu , but do not place them in the level scheme. This information is not further mentioned here. See the ^{163}Eu β^- Decay data set for it.

 ^{163}Gd Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	($5/2^-, 7/2^+$)	68 s 3	$\% \beta^- = 100$ J^π : systematics of N=99 nuclei suggests $7/2^+$ or $5/2^-$. $J^\pi=5/2^-$ for the ^{161}Gd g.s. From systematics, 2003Au02 propose $7/2^+$. $T_{1/2}$: weighted average of decay times of ten γ rays (1982Ge07); the uncertainty includes count-rate effects.