Adopted Levels

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	31-Mar-2022

Q(β^-)=3900 *SY*; S(n)=4650 *SY*; S(p)=9970 *SY*; Q(α)=−430 *SY* 2021Wa16
Estimated uncertainties (2021Wa16): 210 for Q(β^-) and S(n), 450 for S(p) and Q(α).
S(2n)=10820 *210*, S(2p)=19100 *540* (2021Wa16).
1999Be63: ^{187}Hf produced and identified in ^{9}Be(^{197}Au,X), E(^{197}Au)=950 MeV/nucleon pulsed beam at the SIS synchrotron of GSI. Fragments of interest separated by Bπ-TOF-ΔE method using FRS fragment separator, two position-sensitive scintillation detectors, time-of-flight, and multi-sampling ionization chambers (MUSICs). Measured production cross section.
2009Al30 (also 2012Al05,2011St21,2000PoZY): ^{187}Hf produced in ^{9}Be(^{208}Pb,X),E=1 GeV/nucleon reaction at the SIS-18 heavy-ion synchrotron at GSI, followed by separation of fragments using GSI fragment separator (FRS). Measured relative isotopic yields, Eγ and half-life for a micro-sec isomer in ^{187}Hf.

^{187}Hf Levels

Cross Reference (XREF) Flags

A ^{9}Be(^{208}Pb,Xγ)

E(level)	$T_{1/2}$	XREF	Comments
0			%β^-=100 Only β^- decay mode is expected, this 100% β^- is assigned by inference. Theoretical $T_{1/2}$=51.3 s (2019Mo01), 38.9 s (2021Mi17). E(level): the observed ^{187}Hf fragments assumed to correspond to the g.s. J^π: 7/2$^-$ from theory (2019Mo01); 9/2$^-$ from systematics (2021Ko07). $T_{1/2}$: limiting value from time-of-flight of ≈300 ns in 2009Al30. Actual β-decay half-life is expected to be much longer as suggested by 1.3 s (2019Mo01) from theoretical calculations, 14 s (2021Ko07) from systematic trend (2021Ko07). From a decreasing trend of half-lives with increasing neutron number in neutron-rich nuclei, estimated $T_{1/2}$<2.5 min from known half-lives of 4.1 h, 3.5 min and 2.6 min for ^{184}Hf, ^{185}Hf and ^{186}Hf, respectively.
0+x	0.27 μs *8*	A	%IT=100 $T_{1/2}$: measured by 2009Al30 (also 2012Al05) from γ(t). 232- and 264-keV γ rays are associated with the decay of this isomer (2009Al30), but the decay scheme is not known.