

^{19}Mg 2p decay:4.0 ps [2007Mu15](#),[2008Mu13](#)

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, G. C. Sheu	ENSDF	16-Jan-2018

Parent: ^{19}Mg : $E=0$; $J^\pi=1/2^-$; $T_{1/2}=4.0$ ps 15; $Q(2p)=750$ 50; %2p decay=100.0

^{19}Mg -E, $T_{1/2}$, $Q(2p)$: from ([2007Mu15](#)) from (p)(^{17}Ne) correlations. Other: $Q(2p)=-750$ 50 ([2017Wa10](#)).

^{19}Mg - J^π : from ([2008Mu13](#)).

^{19}Mg -%2p decay: presumably 100% two-proton decay to ^{17}Ne .

[2007Mu15](#),[2008Mu13](#): XUNDL dataset compiled by McMaster 2008.

Two-proton radioactive decay of ^{19}Mg to ^{17}Ne was measured at the GSI/FRS facility using a ^{19}Mg beam produced via the $^9\text{Be}(^{20}\text{Mg},^{19}\text{Mg})$ one-neutron removal reaction. A kinematic reconstruction of the $^{17}\text{Ne}_{\text{g.s.}}$ and 2p residuals was analyzed to obtain information on the ^{19}Mg ground state. Sequential proton decay of ^{19}Mg via ^{18}Na states was also analyzed. See related work in ([2009Mu17](#),[2010Mu12](#),[2012Mu05](#),[2016Xu08](#),[2018Xu04](#)).

[2014Vo05](#): At the NSCL/A1200/S800 facility, ^{19}Mg ions were similarly produced by 1-neutron knockout reactions from a 91 MeV/nucleon ^{20}Mg beam on a ^9Be target. The ^{19}Mg nuclides decayed in flight to $^{17}\text{Ne}_{\text{g.s.}}+2p$, and the beam composition was measured as a function of distance from the target in order to obtain the ^{19}Mg lifetime. A ^{19}Mg lifetime on the order of a few ps was deduced.

 ^{17}Ne Levels

E(level)

0