

$^9\text{Be}(^{19}\text{C}, ^{18}\text{B})$ [2010Sp02](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, C. G. Sheu		ENSDF	16-Jan-2016

[2010Sp02](#): The authors measured the unbound ground state of ^{18}B by carrying out a single proton knockout reaction on ^{19}C ($E=62$ MeV/nucleon). The resulting unbound ^{18}B nuclei decayed into $^{17}\beta^+\text{n}$, which were detected using the NSCL/MoNA array and a charged particle detector. The ^{18}B ground state energy was determined by kinematic reconstruction.

 ^{18}B Levels

E(level)	J^π	Comments
0	(2^-)	%n=100 E(level): The upper limit of the scattering length is -50 fm, which corresponds to $E_{\text{rel.}}(^{17}\beta^+\text{n}) < 10$ keV for the unbound ^{18}B ground state. E(level): The observed state corresponds to an unbound neutron s-wave state. Such a ground state is consistent with the systematics of $N=13$ isotones where the $s_{1/2}$ orbit is expected to be lower than the $d_{5/2}$ orbit in ^{18}B. E(level): It is possible that ^{18}B is produced in an excited $J^\pi=1^-$ state which neutron decays to $^{17}\text{B}^*(1080)$. However, discussion is given suggesting this is not the case.