

Abstract for an Invited Paper  
for the APR09 Meeting of  
The American Physical Society

### Measurement of the half-life of $^{100}\text{Sn}$

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The  $\beta$ -decay half-life of  $^{100}\text{Sn}$  has been measured at NSCL to be  $0.55_{-0.31}^{+0.70}$  s [1]. The new half-life was deduced from a maximum likelihood analysis of decay chain events following 14  $^{100}\text{Sn}$  implantation events. The precision of the present result is comparable with that previously reported [2] and the two independent determinations yield an adopted half-life value of  $0.86_{-0.20}^{+0.37}$  s for the ground state of  $^{100}\text{Sn}$ . The  $\beta$ -decay properties of  $^{100}\text{Sn}$  are critical to address the quenching of Gamow-Teller strength in heavy nuclei and the termination of the rapid proton capture process via the Sn-Sb-Te cycle in powerful x-ray bursts. The impact of the present  $^{100}\text{Sn}$  half-life result and future opportunities in the study of heavy,  $N \sim Z$  nuclei will be discussed. This work was supported in part by the National Science Foundation grants PHY-06-06007 and PHY-02-16783.

[1] D. Bazin *et al.*, Phys. Rev. Lett. **101**, 252501 (2008).

[2] K. Sümmerer *et al.*, Nucl. Phys. **A616**, 341 (1997).