

Abstract Submitted  
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**Ultra-High Precision Half-Life Measurement for the Superal-  
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TRIUMF — The calculated nuclear structure dependent correction for  $^{26}\text{Al}^m$   
( $\delta_C - \delta_{NS} = 0.305(27)\%$  [1]) is smaller by nearly a factor of two than the other  
twelve precision superallowed cases, making it an ideal case to pursue a reduction in  
the experimental errors contributing to the  $\mathcal{F}t$  value. An ultra-high precision half-life  
measurement for the superallowed  $\beta^+$  emitter  $^{26}\text{Al}^m$  has been made at the Isotope  
Separator and Accelerator (ISAC) facility at TRIUMF in Vancouver, Canada. A  
beam of  $\sim 10^5$   $^{26}\text{Al}^m/\text{s}$  was delivered in October 2007 and its decay was observed  
using a  $4\pi$  continuous gas flow proportional counter as part of an ongoing experi-  
mental program in superallowed Fermi  $\beta$  decay studies. With a statistical precision  
of  $\sim 0.008\%$ , the present work represents the single most precise measurement of  
any superallowed half-life to date.

[1] I.S. Towner and J.C. Hardy, Phys. Rev. C **79**, 055502 (2009).

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