

Abstract Submitted
for the APR07 Meeting of
The American Physical Society

Analysis of Systematic Errors in the MuLan Muon Lifetime Experiment RONALD MCNABB, University of Illinois at Urbana-Champaign, MULLAN COLLABORATION¹ — The MuLan experiment seeks to measure the muon lifetime to 1 ppm. To achieve this level of precision a multitude of systematic errors must be investigated. Analysis of the 2004 data set has been completed, resulting in a total error of 11 ppm(10 ppm statistical, 5 ppm systematic). Data obtained in 2006 are currently being analyzed with an expected statistical error of 1.3 ppm. This talk will discuss the methods used to study and reduce the systematic errors for the 2004 data set and improvements for the 2006 data set which should reduce the systematic errors even further.

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Date submitted: 11 Jan 2007

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