

Abstract Submitted  
for the APR07 Meeting of  
The American Physical Society

**External Beta-Gamma Background Tails Analysis in SNO<sup>1</sup>**  
CHRISTOPHER TUNNELL, University of Texas at Austin, SUDBURY NEUTRINO OBSERVATORY COLLABORATION — The SNO collaboration is working on lowering its analysis energy threshold. To do this one must fully understand the background physics at these energies. At our anticipated threshold, MeV-order decay products from the Uranium and Thorium chain become increasingly important due to misreconstruction of these events, which allows them to pass our energy and fiducial volume cuts. Accordingly, one must study sources of beta-gamma radioactivity outside of our analysis region by expanding the fiducial volume. Using a newly developed energy fitter, position fitter, Monte Carlo simulations and new analysis techniques, the external backgrounds will be fit and the anticipated number of  $\beta$ - $\gamma$  external backgrounds in our signal box extrapolated.

<sup>1</sup>This project supported by Department of Energy grants DE-FG02-04ER41332 and DE-FG02-93ER40757.

Christopher Tunnell  
University of Texas at Austin

Date submitted: 12 Jan 2007

Electronic form version 1.4