Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Measuring Muon-Induced Processes at Homestake[1] PATRICK DAVIS, DONGMING MEI, BRIAN WOLTMAN, CHAO ZHANG, The University of South Dakota, HOMESTAKE BACKGROUND CHARACTERIZATION TEAM — Muon-induced processes are important background to the low background experiments in searching for rare event physics such as neutrinoless double-beta decay, dark matter, and neutrino oscillation. Measuring muon-induced processes including muon- induced fast neutrons and negative muon capture on different nucleus are critical to the next generation ultra-low background experiments. A R&D program has been carried out in studying the design of the detector array to measure the muon- induced fast neutron yield, energy spectrum, multiplicity, and angular distribution with different targets. This detector array is also optimized to measure the stopping muon flux underground. We report preliminary results from the R&D study.

[1]NSF Grant Number PHY-0758120, South Dakota EPSCoR Office.

Dongming Mei
The University of South Dakota

Date submitted: 02 Jul 2009 Electronic form version 1.4