

Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Simulations of external backgrounds at SURF for the LUX and LZ experiments DAVID WOODWARD, Pennsylvania State University, LUX COLLABORATION, LZ COLLABORATION — As underground experiments searching for rare physics events continue to achieve unprecedented sensitivities, it is important to establish whether or not detector performance will be limited by external backgrounds. Monte-Carlo simulations are an important tool in these efforts, and in this talk we will present a full characterization of cosmic-ray muons, gammas and neutrons coming from the cavern walls of the Davis Laboratory at SURF (Sanford Underground Research Facility). This laboratory hosted the LUX (Large Underground Xenon) direct dark matter experiment and will also host its successor, the LZ (LUX-ZEPLIN) experiment. The implications of these external backgrounds on the sensitivity of both detectors will be discussed.

David Woodward
Pennsylvania State University

Date submitted: 11 Jan 2018

Electronic form version 1.4