

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

A Large Underground Xenon (LUX) WIMP dark matter experiment¹ STEVEN DAZELEY, Lawrence Livermore National Laboratory, LUX COLLABORATION — The LUX collaboration has proposed to build a few hundred kilogram dual phase Xenon WIMP dark matter detector at the 4850 foot level of the new SUSEL site in South Dakota. The design builds on the apparent scalability of the recent Xenon10 and Zeplin II experiments, which employed a similar technique. LUX will have an order of magnitude larger volume and introduce a new way to reduce the backgrounds from WIMP like nuclear recoil events, placing the whole detector inside an active water shield/neutron detector. I will briefly describe the design of the detector/shield concept, and summarize the implications for our sensitivity to WIMP dark matter.

¹Supported by internal Laboratory Directed Research and Development funds at LLNL

Steven Dazeley
Lawrence Livermore National Laboratory

Date submitted: 08 Jan 2008

Electronic form version 1.4