Preliminary prospectus

by

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FIGURE

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LIST OF ACRONYMS

TLA Three Letter Acronym

SOA Some Other Acronym

ABSTRACT

Put your abstract text here.

Introduction

Dark Matter Overview

- 2.1 Observational evidence for dark matter
- 2.2 Avoiding dark matter
- 2.3 Possible dark matter candidates
- 2.4 Searching for dark matter
- 2.5 Current status for dark matter searches

Physics Topics

- 3.1 Muons
- **3.2** Muons Underground
- 3.3 Muon Induced Backgrounds

LUX-ZEPLIN Dark Matter Experiment

- 4.1 Overview
- 4.2 Particle-Xenon interaction within a TPC
- 4.3 Veto system
- **4.4** Outer Detector Construction (Nov20 Apr21)

Outer Detector Optical Calibration System

5.1 System overview

Single Photon Electron Calibration and Monitoring

- **6.1** Analysis and Calibration
- 6.2 Monitoring through SR1

Outer Detector Topology Studies

- 7.1 Local-Distant Asymmetry
- **7.2** Top-Bottom Asymmetry

Muon Analysis

- 8.1 Muon Rate During SR1
- 8.1.1 Analysis
- 8.1.2 Livetime Impact
- **8.2** Muon Simulations
- **8.3** Muon Flux Measurement

Conclusion

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