The Main Title of the Dissertation: The Subtitle of the Dissertation

by

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DISSERTATION ABSTRACT

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CHAPTER III

EXPERIMENTAL SETUP

This section will describe the experimental setup used to collect the data necessary for the long lived particle searches presented in sections VI and VII.

3.1 The Large Hadron Collider

The Large Hadron Collider (LHC) is the world's largest particle accelerator, with a total circumference of 27 kilometers. THe LHC started construction in 1998 and began colliding protons in 2010. The LHC is situated 100 meters underground, straddling the border between Switzerland and France near Geneva. The LHC accelerates protons to nearly the speed of light using superconduction magnets. The LHC then guides the protons to collide at four interactions points evenly spaced around the accelerator rings. The energy of the proton-proton collisions at the interaction points are 13 TeV for run 2 and 13.6 TeV for run 3.

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