

THESIS PROPOSAL

Title: Indirect measurement of cosmic-ray proton spectrum using gamma-ray data from Fermi Large Area Telescope

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Degree: Master's degree

Field of study: Physics

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1 Introduction

2 Methodology and Scope

Methodology

An introduction to Particle In Cell Model

3 Research planning

References

- [1] Abraham C.-L. Chian and Pablo R. Muñoz. “*Detection of current sheets and magnetic reconnections at the turbulent leading edge of an interplanetary coronal mass ejection.*” *Astrophysics Journal Letters* 733: L34 (5pp), 2011 June 1.
- [2] Malakit, K. “*Asymmetric magnetic reconnection: A particle-in-cell study.*” PhD.Thesis, 2012.
- [3] Space Weather, “*What’s up in space—21 Jan 2005.*”
<http://spaceweather.com/archive.php?view=1&day=12&month=09&year=2017>

- [4] Gopalswamy, N. “ *Properties of Interplanetary Coronal Mass Ejection.*” Space Science Review (2006) 124: 145. <https://doi.org/10.1007/s11214-006-9102-1>