

Measurement of the Momentum Spectrum of Cosmic Ray Muons at a Depth of 320 mwe

DISSERTATION

zur Erlangung des akademischen Grades eines
Doktors der Naturwissenschaften

vorgelegt von

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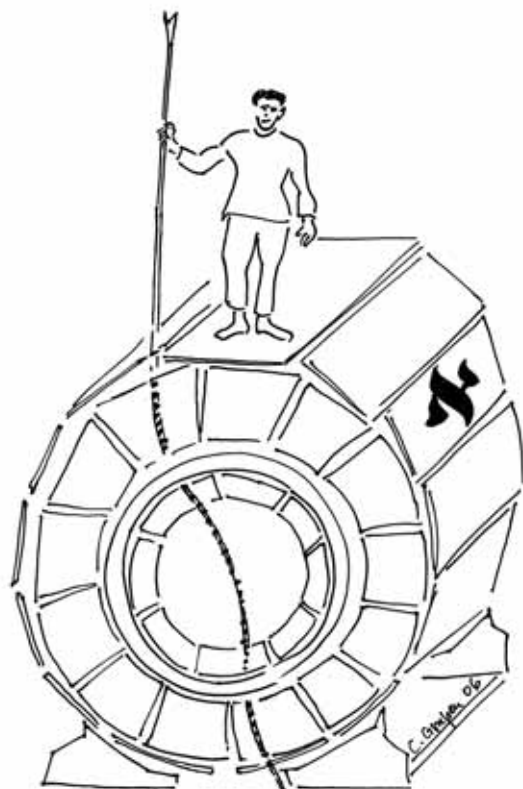
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Master of the Muons

μ

To my family

Abstract

Cosmic ray muons are produced through interactions of primary cosmic radiation in the atmosphere. They are a component of extensive air showers which can also be measured underground. The CosmoALEPH experiment used the ALEPH detector at the European Centre for Particle Physics, CERN, to measure cosmic ray muon events at a depth of 320 mwe underground. Measurements of the momentum spectrum and charge ratio of the cosmic ray muons are presented in this work. The results are compared with the expectations from MC simulations based on different hadronic interaction models.

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