LICENCIATURA EM MATEMÁTICA

FACULDADE IBRA

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: Supervisor

Este trabalho corresponde à versão final da Tese defendida pelo aluno André Vieira da Silva, e orientada pelo Supervisor.

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First and foremost, I would like to express my deepest gratitude to my...

Resumo

Em condições normais...

Palavras-chave: Cromodinâmica quântica...

Abstract

In typical conditions... **Keywords**: Quantum chromodynamics...

Sumário

Capítulo 1

Introduction

1.1 Physics motivation

One motivation to study physics is to understand the fundamental laws of nature that rule the universe around us. For a long time, the fundamental questions about nature were the inspiration for mankind to keep looking for answers. One basic question of physics is "*what are the basic building blocks of matter?*" - how far have we advanced in this question? According to our current knowledge:

> *"Particle physics is at the heart of our understanding of the laws of nature. It is concerned with the fundamental constituents of the Universe, the elementary particles, and the interactions between them, the forces. Our current understanding is embodied in the Standard Model of particle physics, which provides a unified picture where the forces between particles are themselves described by the exchange of particles. Remarkably, the Standard Model provides a successful description of all current experimental data and represents one of the triumphs of modern physics."* **Modern Particle Physics, Mark Thomson** [1].

Bibliography

1. Thomson, M. *Modern particle physics* (Cambridge University Press, 2013).