

SoSe 2023: Hauptseminar

The Matter Puzzle - baryon asymmetry, Dark Matter and particle physics

Lecturers: Dr. Tomás Gonzalo, Prof. Felix Kahlhöfer, Prof. Milada Mühlleitner

Time: Mo, 15h45-17h15, Room 11/12 - First meeting 17.4.2023

(Presentations in English, German on request)

Introduction

- Successes and shortcomings of the SM
- Beyond SM physics

Dark Matter

- Dark Matter - evidences and tests
- Dark Matter candidates

CP violation

- CP violation in particle physics
- Strong CP problem and axions

The big picture

- Thermal history of the Universe

Registration: Secretariat ITP
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Leptogenesis

- Neutrino masses, seesaw mechanism
- Leptogenesis

Baryogenesis

- Electroweak baryogenesis
- Stochastic gravitational waves