

Module: Elective Advanced Lectures: Theoretical Physics

Module No.: physics70c

Course: Theoretical Particle Astrophysics (T)

Course No.: physics753

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	3+2	7	ST

Requirements for Participation:

Preparation:

General Relativity and Cosmology (physics754)
Quantum Field Theory (physics755)
Theoretical Particle Physics (physics615)

Form of Testing and Examination:

Requirements for the examination (written): successful work with the exercises

Length of Course:

1 semester

Aims of the Course:

Introduction to the current status at the interface of particle physics and cosmology

Contents of the Course:

Topics on the interface of cosmology and particle physics:
Inflation and the cosmic microwave background;
baryogenesis,
Dark Matter,
nucleosynthesis
the cosmology and astrophysics of neutrinos

Recommended Literature:

J. Peacock, Cosmological Physics (Cambridge University Press 1998)
E. Kolb, M. Turner; The Early Universe (Addison Wesley 1990)