

**Modules:** physics700 **Elective Advanced Lectures**  
physics730 **Theoretical Physics**

**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:**

**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)