

Observational Cosmology - astro845

Degree - M.Sc. in Astrophysics (PO von 2014)

<i>Module</i>	Elective Advanced Lectures: Observational Astronomy
<i>Module No.</i>	astro840

<i>Course</i>	Observational Cosmology
<i>Course No.</i>	astro845

Category	Type	Teaching			Semester
		Language	hours	CP	
Elective	Lecture with exercises	English	2+1	4	ST

Requirements for Participation:

Preparation:

Form of Testing and Examination: Requirements for the examination (written or oral): successful work with the exercises

Length of Course: 1 semester

Aims of the Course: Students with B.Sc. in Physics will be introduced to past and current experiments in cosmology, with some bias toward radio- and submillimeter astronomy

Contents of the Course: Brief history of cosmology and its initial discoveries: cosmic expansion, cosmic microwave background. Overview of modern cosmological experiments, their major aims and technology. Aims: constraints on Big Bang and dark energy, CMB power spectrum and polarization, Sunyaev-Zeldovich effect, Supernova Ia distance measures, structure /cluster /galaxy formation, epoch of reionization, high-redshift galaxies and quasars. Experiments: APEX, LOFAR, Planck, Herschel, ALMA, SKA. Techniques: bolometer, HEMT

Recommended Literature:

B. F. Burke; F. Graham-Smith, An Introduction to Radio Astronomy (Cambridge University Press 2002)

J. A. Peacock; Cosmological Physics (Cambridge University Press 1998)

Contemporary Review Articles