Module: Elective Advanced Lectures: Observational Astronomy

Module No.: astro840

Course: Wave Optics and Astronomical Applications

Course No.: astro846

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture	English	2	3	ST

Requirements for Participation:

Preparation:

Form of Testing and Examination:
Written or oral examination

Length of Course:
1 semester

Aims of the Course:
Acquire the fundamentals necessary to carry out research projects in the field of wave optics and astronomical infrared interferometry

Contents of the Course:
Fundamentals of wave optics; Fourier mathematics; digital image processing; Michelson interferometry; speckle interferometry; speckle holography; Knox-Thompson method; bispectrum-speckle interferometry; interferometric spectroscopy; infrared-long-baseline interferometry; optical phase-closure method; infrared interferometry of young stars and stars in late evolutionary stages and in nuclei of galaxies

Recommended Literature:
Lecture Notes
J. W. Goodman; Introduction to Fourier Optics (Roberts & Company Publishers 3rd edition, 2004)