

Wave Optics and Astronomical Applications - astro846

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

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

<i>Course</i>	Wave Optics and Astronomical Applications
<i>Course No.</i>	astro846

Category	Type	Language	Teaching		Semester
			hours	CP	
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)