

**Modules:**

astro830 **Elective Advanced Lectures**  
 astro840 **Observational Astronomy**

**Course:**

## Wave Optics and Astronomical Applications

**Course No.:** astro846

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

**Requirements:****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)