

IMPRS UFAST Focus Course

Numerical Methods and Practical Skills for Computational Physics, Part II

Heiko Appel

Hands-on exercises: Heiko Appel

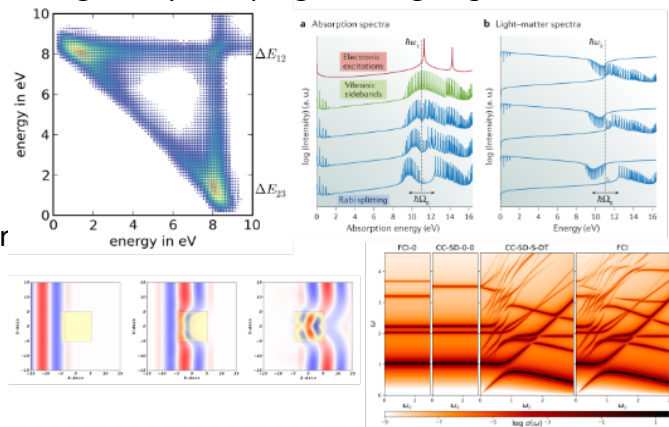
Abstract:

Theory and experiment have been the two pillars of science that for centuries have underpinned our understanding of the world around us. With the advent of powerful computers, computational methods have emerged as a third pillar of science. Among other techniques, numerical methods, data analysis, and visualization have become indispensable tools for many scientists nowadays. This course intends to introduce basic numerical methods which allow to perform numerical simulations on modern computing platforms.

This course will require some basic knowledge of Python programming [e.g. I-UF FC1-1 and FC1-2].

Topics include:

- Polynomial interpolation
- Root finding and solving nonlinear equations
- Numerical differentiation and integration
- Solving ordinary and partial differential equations



Online course

24th – 28th March 2025

Lecture, Hands-On: 09:00 h – 13:00 h, 14:00 h – 17:00 h

Register on Geventis I-UF FC3-2

Registration Deadline 18th March

