



Carrer de la Llum 2-26
08290 Cerdanyola del Vallès
Barcelona, Spain
Tel: (+34) 93 592 4300
www.cells.es

Título puesto: Simulation of Synchrotron Radiation Diagnostics for ALBA II

Curso: 2026/27

División: Aceleradores

Descripción del proyecto:

As part of the ALBA II upgrade, we need to design new diagnostic beamlines that match the characteristics of the new machine. This project focuses on adapting our current measurement methods, X-ray pinhole imaging and visible light interferometry, to the upgraded electron beam.

The work will involve using simulations to optimize the beamline designs. We will study the synchrotron radiation produced, determine the necessary apertures, and select the right wavelengths.

The final goal is to use these results to complete the design of the new instruments that will measure the electron beam size for ALBA II.

Perfil del estudiante:

Student profile: Physics, Mathematics student or similar

Requirements:

- Good mathematical skills
- Basics knowledge of Optics
- Experience with python programming language
- Good level of spoken and written English.

Program:

- Introduction to Accelerators and synchrotron radiation
- Introduction to Synchrotron radiation simulations tools (SRW, XOP)
- Simulation for pinhole/NRA for the new ALBA II machine

Tutor: Laura Torino / Ubaldo Iriso

Responsable División: Francis Pérez