



## CHIM2340 Radio cristallography

[22.5h+15h exercises] 2.5 credits

This course is taught in the 2nd semester

**Teacher(s):** Jean-Paul Declercq  
**Language:** French  
**Level:** Second cycle

### Aims

Introduction to the study of crystalline state by diffraction of X-rays.

### Main themes

First part (15hrs): X-ray properties. Reminder of basic relations of X-ray crystallography . Study of powder diagrams and application to mineral identification. Experimental methods applicable to monocrystals. Determination of lattice parameters. Calculation of diffracted intensities. Determination of space groups. Second part (7,5hrs): Determination of molecular structures. Calculation of electronic density. Phase problems and resolution methods (Patterson, direct methods, isomorphous replacement, anomalous scattering).

**Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)**

Prerequisites: CHIM1241A, first part: crystallography.  
Evaluation: oral examination with written preparation.