UE Tools for investigating polymers

Niveau d'étude
Bac +5

ECTS
3 crédits

Composante
UFR Chimie-Biologie

Période de l'année
Toute l'année

- **Langue(s) d'enseignement:** Anglais
- **Ouvert aux étudiants en échange:** Oui
- **Code d'export Apogée:** YAFP9U15

Présentation

Description

This course is devoted to the multiscale study of the structure of polymer materials using small angle scattering (SAS), nuclear magnetic resonance (NMR) and rheometry. Besides liquid-state NMR, the course explains how solid state NMR can be applied to the characterization of polymers. Experimental tricks to obtain high-resolution 13C NMR spectra of solids are discussed. Dipolar interactions, chemical shifts anisotropy, magic angle spinning, relaxation times (T1 and T2 and T1g) and cross-polarization are some of the main notions that are presented in the course. The course is based on examples that were studied with high-resolution solid state 13C NMR. Regarding rheometry, the relationships between the (nano)structure of polymers and their use properties and implementation.

Heures d'enseignement

UE Tools for investigating polymers - CM	CM	20h
UE Tools for investigating polymers - TD	TD	14h

Période : Semestre 9

Infos pratiques

Lieu(x) ville

- Grenoble

Campus

- Grenoble - Domaine universitaire