

UE Tools for investigating polymers



Niveau d'étude
Bac +5



ECTS
3 crédits



Composante
UFR de Chimie
et de biologie



Période de
l'année
Toute l'année

Diplômes intégrant cet élément

- Master Chimie

- > 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 ^{13}C NMR spectra of solids are discussed. Dipolar interactions, chemical shifts anisotropy, magic angle spinning, relaxation times (T_1 and T_2 and $T_{1\rho}$) 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 ^{13}C NMR. Regarding rheometry, the relationships between the (nano)structure of polymers and their use properties and implementation.

Heures d'enseignement

CM	CM	20h
TD	TD	14h

Période : Semestre 9

Infos pratiques

Lieu(x) ville

➤ Grenoble

Campus

➤ Grenoble - Domaine universitaire