

Dynamiques non linéaires et instabilités de non-équilibre

Lecturers

Anne DE WIT (Coordinator) and Laurence RONGY

Course mnemonic

CHIM-F407

ECTS credits

5 credits

Language(s) of instruction

French

Course period

Second term

temporal oscillations or spatial-temporal dynamics in reaction-diffusion systems.

Teaching method and learning activities

Teaching in a class room or discussions on the basis of notes depending on the number of students

Other information

Contact(s)

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Course content

Introduction to nonlinear chemical systems characterized by the presence of feedback loops (such as autocatalytic steps or inhibitory processes) in the kinetic scheme. Description and analysis of out of equilibrium dynamics in such nonlinear systems: bistability, excitability, temporal oscillations, chemical waves, stationary patterns, chaos, etc...

Objectives (and/or specific learning outcomes)

To be able to write down a given reaction-diffusion model for a given kinetic scheme, analyze the related stationary states and their stability, understand the necessary conditions to obtain

Evaluation method(s)

Oral examination

Evaluation method(s) (additional information)

Oral examination

Programmes

Programmes proposing this course at the faculty of Sciences

MA-CHIM | Master in Chemistry | finalité Research/unit 1, finalité Teaching/unit 1 and finalité Professional/unit 1