Plasma chemistry and physics

Lecturer
François RENIERS (Coordinator)

Course mnemonic
CHIM-F425

ECTS credits
5 credits

Language(s) of instruction
French

Course period
Second term

Course content

Introduction to the general properties of plasmas. Motion of a charged particle in an electromagnetic field. Description of the interactions between particles in a plasma. Waves in plasmas. Dielectric properties of plasmas. Vlassov equation. Introduction to transport phenomena in plasmas.Introduction to plasma chemistry reaction mechanisms ; Description of the different available plasma systems ;characterization of plasmas (OES, electrical)Applications of plasmas to the modification of surfaces and the deposition of coatings

Objectives (and/or specific learning outcomes)

Provide an overview of the dynamics and the chemical processes in plasmas

Teaching method and learning activities

oral lecture

References, bibliography and recommended reading

Plasma Dynamics (Clarendon Press . Oxford 1990) R. DendyFundamentals of plasma technology (Binnig) ; Plasma Reactifs (Ricard) ; Plasma polymerization (Lieberman)

Other information

Contact(s)

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Evaluation method(s)

Oral examination

Evaluation method(s) (additional information)

Oral exam

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