

Master Nanosciences et nanotechnologies

Surfaces and nano-objects

Responsable	Descriptions	Informations
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LANGUE(S) D'ENSEIGNEMENT

Anglais

CONTENU

This course is an introduction to the physics of surfaces, interfaces and nano-objects adsorbed on surfaces: description, dynamics, growth mechanisms, morphology, stability,...

Topics :

I/ Surfaces: Description (direct and reciprocal spaces), Statics, Dynamics, Nanostructuration, Properties, ...

II/ Growth mechanisms: basic laws, BCF model, 2D and 3D nucleation, Growth spiral, Epitaxy, Growth modes, Instabilities, Bottom-up...

III/ Structure, Morphology et Stability of nano-objets : Wulff construction, Wetting/Dewetting, Ripening/Coalescence, Stability/Fluctuations of shape and composition...

IV/ Properties of nano-objets: Typical dimensions, Classical size effect ($1/r$), Confinement effects...

PRÉ-REQUIS OBLIGATOIRES

Thermodynamics

Structure of matter

Solid state physics

Quantum mechanics

Statistical physics

VOLUME HORAIRE

- Volume total: 26 heures
- Cours magistraux: 18 heures
- Travaux dirigés: 8 heures

CODES APOGÉE

- SNNC25AJ [ELP]

M3C

Aucune donnée M3C trouvée

POUR PLUS D'INFORMATIONS

[Aller sur le site de l'offre de formation...](#)

