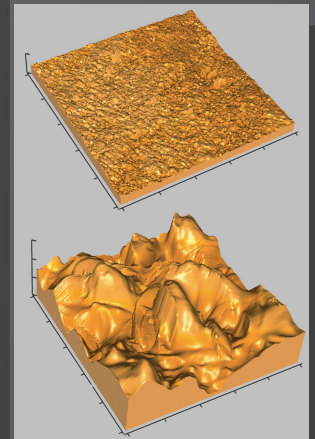
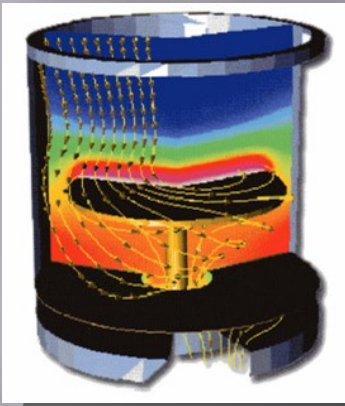


MSN 505

FUNDAMENTALS of THIN FILM MATERIALS



This course will cover

- Physics of thin films (crystallography, basics of materials science, quantum mechanics and solid state physics, thermodynamics, kinetics, nucleation and growth)
- Solid, liquid and vapor phase epitaxy techniques for thin film growth
- Thin film characterization techniques (structural, chemical, optical, electrical/magnetic, mechanical)
- Mechanical, electrical, magnetic, and optical properties of thin films
- Emerging thin-film materials & applications
- Metallurgical and protective coatings, Electronic and optic thin film devices, such as HEMT, MOSFET, photo-detectors, solar-cells, LED, LD, VCSEL.

INSTRUCTOR: Assist. Prof. Bilge Imer