



Séminaire PIMM

Jeudi 28 Avril 2011 à 14 heures

Amphi A

Arts et Métiers ParisTech, 151 bd de l'hôpital, 75013 Paris

14h00

Christophe Le Burlot

Doctorant LSMP-PIMM

STRAIN HETEROGENEITY IN DEFORMED POLYCRYSTALS INFERRED FROM NEUTRONS AND SYNCHROTRON DIFFRACTION EXPERIMENTS -APPLICATION TO A DUPLEX STEEL

In order to investigate the local response of polycrystals, which is heterogeneous owing to the elastic and plastic anisotropy of grains, and to validate mean- and full-field micromechanical models, we have performed elastic strain measurements using several diffraction techniques (neutrons, transmission and reflexion under synchrotron radiation, Laue microdiffraction, and laboratory X-ray) during which the specimen was tensile deformed in-situ.

Those technique are providing different spatial and instrumental resolutions, and also different gage volumes that can range from cubic micrometers up to cubic centimeters. Application has been performed on a duplex steel (ferrite and austenite) as an example of two-phase high-strength polycrystals. The uncertainty and relevance of the different measurements will be discussed and compared with simulations based on an elasto-viscoplastic self-consistent model.

14h40

Jacques Perriere

(Institut des Nanosciences de Paris INSP, UPMC)

ABLATION LASER, PASSE, PRESENT, FUTUR...

L'ablation laser est une méthode de croissance de films minces relativement récente (1987 et les nouveaux supraconducteurs..). Les spécificités et propriétés de l'ablation laser pour la croissance de films d'oxydes seront décrites ainsi que les développements de cette méthode pour les films organiques, les nanomatériaux ou par l'utilisation de sources laser ultra-courtes. Enfin les travaux récents concernant la formation de nouvelles phases d'oxydes et de nanocomposites seront présentés.

15h40 Café