

Linking properties and architecture in heterogeneous lightweight materials

Guillermo REQUENA

*(Institute of Materials Science and Technology –
Vienna University of Technology - Vienna - Austria)*

Invité par Jean-Paul ITIE

Lundi 14 février à 14h00
Grand Amphi SOLEIL

Séminaires

The mechanical and physical properties of multiphase materials are strongly influenced by the geometrical arrangement of their constituents, i.e. their internal architecture. This is determined by the processing route and the thermo-mechanical history of the material. An accurate description of the architecture has to be done using three-dimensional (3D) imaging methods in cases where, for instance, interconnectivity and/or contiguity of phases exist, the orientation of phases varies throughout the volume, the phases are inhomogeneously distributed, etc. Several examples will be shown for which the 3D characterisation of the architecture of different multiphase materials, such as aluminium alloys, titanium alloys, metal- and polymer matrix composites, has been decisive to understand their thermo-mechanical behaviour. Besides the correlation between microstructure and properties, emphasis will be put on the characteristics of the 3D imaging methods (types of contrasts, resolution, destructive/non-destructive nature, etc.) used in different stages of the investigations : synchrotron tomography, light optical tomography and focused ion beam tomography.



Ce séminaire sera suivi d'une pause-café



Formalités d'entrée : accès libre dans l'amphi du Pavillon d'Accueil. Si la manifestation a lieu dans le Grand Amphi Soleil du Bâtiment Central, merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès).

SYNCHROTRON SOLEIL

Division Expériences - L'Orme des merisiers - Saint-Aubin - BP 48 – 91192 GIF S/YVETTE Cedex

<http://www.synchrotron-soleil.fr/portal/page/portal/Soleil/ToutesActualites>

Secrétariat Division Expériences : sandrine.vasseur@synchrotron-soleil.fr