Proposal for a post doc position

Title: Triple-line dynamics and solid-state dewetting

Duration: 18 months

Financial support: Provided by CINaM.

The applicant will do his/her research activity at the CINaM, UMR CNRS, Marseille, France.

Please send your application to:

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Solid state dewetting of thin films is a process by which a metastable film uncovers its substrate and agglomerates into an assembly of 3D islands. Solid state dewetting is thus a common 2D→ 3D transformation. However, the mechanisms of solid state dewetting differ from the mechanisms of liquid dewetting because they involve different physical ingredients (surface diffusion, crystalline anisotropy, elasticity….).

This proposal for a post-doc position is supported by the French Agency for Research (LOTUS project) that involves three scientific teams from Grenoble (sample fabrication), Lyon (atomistic simulations) and Marseille (*in-situ* experiments). The main goal of our project is to develop a basic understanding of the statics and dynamics of solid-solid-vacuum triple lines via a study of the dynamics of dewetting of a thin film. More precisely we want to tackle two problems (i) the influence of chemical reactivity at the triple line and (ii) the role of substrate heterogeneity (topographical or chemical) on the triple line behaviour.

These questions will be addressed by microscopic simulations performed by the group at Lyon and by *in-situ* and real-time experiments using Low Energy Electron Microscopy (LEEM) combined with scanning probe microscopy (STM,AFM) performed during the post-doc job at Marseille.

Profil :

The applicant should have a solid background in surface physics, solid-state physics and nanoscience . Competences in LEEM and/or STM will be highly appreciated.