



Departamento de Matemática Aplicada

Seminario **Matemática Aplicada - UCM**

Curso 2014-2015

Martes 2 de junio de 2015

Facultad de CC. Matemáticas

Sala 209. Seminario Alberto Dou.

12:00. Cristina Brändle. Universidad Carlos III de Madrid.

“Phase transitions with mid-range interactions:
a non-local Stefan model.

(Interacciones de medio alcance en problemas de cambio de fase: un modelo no local del problema de Stefan).

RESUMEN:

We study a non-local version of the one-phase Stefan problem which takes into account mid-range interactions, a model of phase transition which may be of interest at a certain mesoscopic scale. The equation involves a convolution with a compactly supported kernel. The presence of mid-range interactions leads to new phenomena which are not present in the usual local version of the one-phase Stefan model, namely the creation of mushy regions, the existence of waiting times during which the liquid region does not move, and the possibility of melting nucleation. If the kernel is suitably rescaled, the corresponding solutions converge to the solution of the local one-phase Stefan problem.

Joint work with E. Chasseigne and F. Quirós.

Organiza: Departamento de Matemática Aplicada. UCM.

Con la colaboración de Grupo de Investigación UCM “Comportamiento Asintótico y Dinámica de Ecuaciones Diferenciales” (CADEDIF).
