



Departamento
de Matemática
Aplicada



SEMINARIO DE MATEMÁTICA APLICADA

Hiroshi MATANO,
Universidad de Tokio

On a free boundary problem for the curvature flow with driving force

This talk is concerned with a free boundary problem associated with the curvature dependent motion of planar curves in the upper half plane whose two endpoints slide along the horizontal axis with prescribed fixed contact angles. The first main result is on the classification of solutions; every solution falls into one of the three categories, namely, area expanding, area bounded and area shrinking types. We then study in detail the asymptotic behavior of solutions in each category. Among other things we show that solutions are asymptotically self-similar both in the area expanding and the area shrinking cases, while solutions converge to either a stationary solution or a traveling wave in the area bounded case. Thus the renormalized curve converges to some profile in each of the three cases, but the proof of the convergence is totally different among the three cases.

This is joint work with Jong-Sheng Guo,
Masahiko Shimojo and Chang-Hong Wu.

Organizado por Departamento de Matemática Aplicada, el Grupo UCM MOMAT y el IMI

Fecha: Martes 24 de Noviembre de 2015 a las 11h.
Lugar: Seminario Alberto Dou (Aula 209)
Facultad de CC Matemáticas, UCM