



UC|UP MATH PhD Program

Research Seminar Program UC|UP Joint PhD Program in Mathematics

Date and Time. December 17, 2015 - 12h00

Place. Room 5.5, Department of Mathematics, University of Coimbra

Speaker. Juliane Oliveira ¹

Title. Dimensionality of pattern formation in Reaction Diffusion systems

Abstract. In the study of pattern formation in symmetric physical systems a 3-dimensional structure in thin domains is often modelled as 2-dimensional one. As a contrast, in this work we use the full 3-dimensionality of the problem to give a theoretical interpretation and possibly decide whether the pattern seen in Reaction Diffusion systems naturally occur in either 2- or 3- dimension. For this purpose, we are concerned with functions in \mathbb{R}^3 that are invariant under the action of a crystallographic group and the symmetries of their projections into a function defined on a plane.

¹Juliane Oliveira is a student for the Joint PhD Program in Mathematics UCjUP working at University of Porto in the area of "Bifurcation and Crystallography Theory" under the supervision of Prof. Isabel Labouriau and Prof. Sofia Castro.