Contributed Talk

Name: Eugen Radu   **Position:** Post-Doc/Research Fellow

Affiliation: Departamento de Matematica da Universidade de Aveiro and Centre for Research and Development in Mathematics and Applications, Aveiro University

Title: Multipolar boson stars

Abstract: We show, by explicitly constructing the fully non-linear solutions, that static boson stars with a single complex scalar field, can have a non-trivial multipolar structure, yielding the same morphologies for their energy density as those that elementary hydrogen atomic orbitals have for their probability density. This includes static configurations without any continuous symmetries. Axially symmetric boson star chains, with several distinct components located on the symmetry axis, are also discussed.