

Flow instabilities in two-component 2D Bose-Einstein condensates

Researchers:

- Investigador principal: Antonio Muñoz Mateo. [Universidad de Barcelona](#) [1].

Language Undefined

Description:

Proyecto asignado a través de la [Red Española de Supercomputación](#) [2].

Study of the generation and evolution of nonlinear excitations in two-component (pseudo-spin 1/2) 2D Bose-Einstein condensates of ultracold atomic gases. The project will be focused on the onset of the instabilities in stationary states that give place to the appearance of vortices and solitons.

The equations of motion of the coupled superfluids, in a mean field approximation, will be numerically solved by means of a massively parallel Trotter-Suzuki-MPI solver, with all computational details made available to the public to ensure easy reproducibility of the results.

Source URL: <http://www.cenits.es/en/proyectos/flow-instabilities-two-component-2d-bose-einstein-condensates>

Links

- [1] <http://www.ub.edu>
[2] <https://www.res.es/>