Recent advances in reduced order models based on proper orthogonal decomposition for incompressible flows

Bosco García Archilla

[1] *Departamento de Matemática Aplicada II, Escuela Técnica Superior de Ingeniería, Universidad de Sevilla, Seville, Spain; bga@us.es*

Abstract. In this talk we review the latest results concerning reduced order models (ROM) based on proper orthogonal decomposition (POD) to approximate the solutions of the incompressible Navier-Stokes equations. These include, among other topics, error bounds independent of the Reynolds number, pointwise in time error estimates, the inclusion of time derivatives in the set of snapshots, higher-order estimates in time, and POD approximation to the pressure.