香港中文大學 The Chinese University of Hong Kong

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FIRST IN CHANGE

Analysis and PDE Seminar

Professor Jim Kelliher
Department of Mathematics, University of California Riverside

TITLE: Large time behavior for 2D and 3D Navier-Stokes with Navier boundary conditions

Date : Apr 7th, 2023 (Friday)
Time : 1pm-2pm (Hong Kong time)
2pm-3pm (Korea time)

Link to ZOOM : https://unist-kr.zoom.us/j/3170659442
Meeting ID : 317 065 9442
Password : APDE21

Abstract. We study 2- and 3-dimensional incompressible Navier-Stokes equations in a smooth bounded domain with divergence-free square-integrable initial velocity with Navier friction boundary conditions. In three dimensions, we prove exponential decay if the friction coefficient is nonnegative and the domain is not a solid of revolution. In addition, in the frictionless case, we prove convergence of the solution to a steady rigid rotation, if the domain is a solid of revolution. In two dimensions, we also establish the decay of the vorticity in L^∞. This is joint work with Christophe Lacave, Milton C. Lopes Filho, and Helena J. Nussenzveig Lopes.

All are welcome

This is a joint activity organized by Department of Mathematics, The Chinese University of Hong Kong, Hong Kong; Department of Mathematics, Institute of Mathematical Research, Research Division of Mathematical and Statistical Science, The University of Hong Kong, Hong Kong; and Department of Mathematical Sciences, Ulsan National Institute of Science and Technology, Korea. More details can be found in https://hkumath.hku.hk/~imr/event/CUHK_HKU_UNIST_Analysis_and_PDE/index.php.