



香港中文大學
The Chinese University of Hong Kong



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FIRST IN
CHANGE

Analysis and PDE Seminar

Dr. Hao Liu

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TITLE: On the rigidity and existence of self-similar type solutions to the steady Navier-Stokes Equations

Date : March 28th, 2025 (Friday)

Time : 10am-11am (Hong Kong time)

11am-12noon (Korea time)



Link to ZOOM : <https://cuhk.zoom.us/j/99008163597>

Meeting ID : 990 0816 3597

Password : 219834

Abstract. Solutions with scaling-invariant bounds such as self-similar solutions, play important roles in the understanding of the regularity and asymptotic structures of solutions to the Navier-Stokes equations. In this talk, we will discuss some recent rigidity results about the solutions satisfying some scaling-invariant bounds to the steady Navier-Stokes equations. Then we talk about some applications of these rigidity results such as the regularity and the leading order behaviors of the solutions in the exterior domain. We may also talk about existence of large self-similar solutions to steady Navier-Stokes Equations with large external forces. This talk is based on the joint work with Jeaheang Bang, Changfeng Gui, Yun Wang and Chunjing Xie.

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.

