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FIRST IN CHANGE

Analysis and PDE Seminar

Dr. Jeongho Kim

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TITLE: Hydrodynamic limit of the Chern-Simons-Schrodinger equations

Date : December 9th, 2021 (Thursday)
Time : 10am-11am (Hong Kong time)
11am-12noon (Korea time)
Link to ZOOM : https://unist-kr.zoom.us/j/3170659442
Meeting ID : 317 065 9442
Password : APDE21

Abstract. We present a hydrodynamic limit of the nonlinear Chern-Simons-Schrodinger (CSS) system. Precisely, we consider a family of scaled CSS system and show that CSS system asymptotically converges toward the compressible Euler system, coupled with the Chern-Simons equations, as the scaled Planck constant converges to 0. Our method is based on the modulated energy estimate. In particular, we observe that the classical theory of relative entropy method can be applied to show the hydrodynamic limit, with the additional quantum correction term.

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.