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FIRST IN CHANGE

Analysis and PDE Seminar

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TITLE: Defects in Liquid Crystal Flows

Date : March 30th, 2022 (Wednesday)
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. In this talk, we consider the dynamical properties of topological defects in 2D flows of liquid crystals modeled by the Ginzburg-Landau approximations. In order to overcome the potential irregularity of fluid velocity fields, the fluid is transported by a nonlocal (an averaged) velocity and is coupled with effects of the elastic stress. We applied the local energy inequality to establish identities for motion of both first and second moment associated with the energy density. It is verified that the defects move along the trajectories of the flow associated with this averaged velocity, that is

$$\frac{d}{dt}a_j(t) = u(a_j(t), t)$$

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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.