ARGHIR DANI ZARNESCU, BCAM, Basque Center for Applied Math and IMAR, Institute of Mathematics of Romanian Academy

On the dynamical emergence of nematic defects

We consider the effect that the flow has on the dynamics of liquid crystals molecules, within the Q-tensor formalism, and the Beris-Edwards model. We study the limit of high Ericksen number and also the preservation of eigenvalues. We identify some of the flow mechanisms responsible for the appearance of localized gradients that increase in time. This is joint work with Hao Wu (Fudan) and Xiang Xu (Old Dominion).