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Laboratoire PMMH
10 rue Vauquelin, 75231 Paris Cedex 05



Séminaire PMMH

Bureau d'Études, Bâtiment L, 2^{ème} étage

Vendredi 17 juin 2016, 11h00-12h00

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Active nematics on tori

We will discuss recent results with active nematics on toroidal surfaces. We will start by briefly discussing how we make toroidal droplets, how these evolve in time, and how we stabilize the toroidal shape. We will then address how nematic liquid crystals organize on the surface of stable tori. Despite no defects are required, topologically, theoretical calculations with inactive nematics find that these are often present in the ground state for energetic reasons. Furthermore, these also couple to the Gaussian curvature of the underlying substrate and exhibit defect unbinding. Our experiments with active nematics illustrate these facts, on average. However, we find that the number of defects is far larger than what one would expect for inactive nematics. Overall, the activity in our system seems to play a role akin to "temperature", allowing us to study of the "high T" limit of inactive nematics.

Prochain séminaire : vendredi 24 juin, Scott Waitukaitis (Univ. Leiden)
Programme des séminaires : www.pmmh.espci.fr, onglet *Séminaires PMMH*
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