

## Dynamics of the nematic director on a surface: The role of easy-axis heterogeneities

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Anchoring properties of liquid crystals have been thoroughly studied because of the technological importance of strong anchorings and nematic alignment layers. It is however striking that several fundamental phenomena (gliding, memory anchoring ...) implying the dynamics of director on weaker anchoring substrates are still not yet clearly understood.

We focus here on the rapid local reorientation of the nematic director on a substrate, obtained for example by the motion of disclinations or wall defects on a surface and the role of the substrate on this dynamics. Except for liquid-like anchoring layers [1,2], dynamics of textures are complex and can not be described with a simple additional rotational surface viscosity at boundaries. We examine the role of small heterogeneities of the easy axis and explain how they give rise to a macroscopic friction torque.

- [1] C. Blanc, D. Svensek, S. Zumer, M. Nobili, Phys. Rev. Lett, **2005**, 95, 097802.
- [2] M. Nespoulous, C. Blanc, M. Nobili, , J. Appl. Physics, **2007**, 102, 073519.