



Polymer- & Soft-Matter-Seminar

Tuesday,
23rd April 2013

at: 5.15 pm

VSP1 1.26

Von-
Seckendorff- -
Platz 1,
06120 Halle

Dr. Francesca Serra

University of Milan

"How defects become useful: the memory of confined ne- matic liquid crystals"

Nematic liquid crystals (NLCs) are uniaxial anisotropic and birefringent fluids that have been widely used for many decades in displays. While the aim of conventional display technology is to obtain a wholly aligned and defect-free material, new technologies are starting to exploit the potential of topological defects, i.e. regions where the NLCs are not aligned. Topological defects are responsible for the memory effects observed in liquid crystals confined in bicontinuous porous materials, a discovery that could pave the way to new kinds of bistable displays. Microfabrication techniques, such as femtosecond laser ablation and two-photon polymerization, allow the experimental study of NLCs in matrices with controlled geometry and they thus enable the study of topological defects and memory effects under various conditions.