Meeting: 1000, Albuquerque, New Mexico, SS 11A, Special Session on Nonlinear Partial Differential Equations Applied to Materials Science

1000-35-211 **Dmitry Golovaty*** (dmitry@math.uakron.edu), Department of Theoretical and Applied, Mathematics, The University of Akron, Akron, OH 44124. *Time Evolution of Nematic Liquid Crystals.*

We study asymptotically and numerically the behavior of two evolution systems modeling time-dependent behavior of nematic liquid crystals in the absence of flow. The systems are governed by the Ginzburg-Landau-type equations for the Landau-de Gennes tensor order parameter and for nematic director - scalar order parameter combination, respectively. In particular, we discuss the dynamics of topological defects and interfaces. (Received August 24, 2004)