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Jinhae Park* (jhpark2003@gmail.com), PDE and Functional Analysis Research Center, Seoul National University, Seoul, 151-742, South Korea. *Existence of solutions to Boundary Value Problems for Smectic Liquid Crystals.*

In this talk, we consider the Chen-Lubensky energy describing smectic liquid crystals. One of difficulties of studying this energy is to prove existence of minimizers due to boundary conditions. We show that the Chen-Lubensky energy functional achieves its minimum in appropriate classes of functions with physically relevant boundary conditions. This is a joint work with P. Bauman and D. Phillips. (Received September 15, 2010)