1112-49-246 **Daniel Phillips*** (phillips@purdue.edu), Department of Mathematics, Purdue University, 150 N. University Street, West Lafayette, IN 47906. *Chevrons in Smectic Liquid Crystals.* Preliminary report.

Smectic liquid crystals self-organize into layers restricted only in that the molecules tilt so as to form a fixed angle with the layer normal. If an electric field is applied to the liquid crystal material the molecules and layer structure reorganizes. This system is characterized by a very nonlinear energy with several small parameters. In earlier work (joint with Lei Cheng) we analyzed the gamma limit for this problem and determined the limit's molecule and layer patterns, and the layer defect structure (the chevrons).

Here we examine the limiting patterns when a more complete electrostatic energy is included. (Received August 05, 2015)