1041-35-275 **Ralf W Wittenberg*** (`ralf@sfu.ca`), Department of Mathematics, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada, and **Ka Fai Poon** (`kfpoon@sfu.ca`). *Coarsening to chaos-stabilized fronts in spatiotemporal chaos.*

We discuss recent results and ongoing work on the Nikolaevskii PDE, a paradigmatic model for pattern formation with continuous symmetry, and its leading-order (Matthews-Cox) amplitude equations, and show that these equations exhibit a range of novel dynamical and statistical behaviors. These include spatiotemporal chaos with strong scale separation, anomalous scaling of the large-scale mode, localized coexistence of chaotic and ordered states, coarsening to domain size-dependent fronts, and stabilization of fronts by spatiotemporal chaos. (Received August 12, 2008)