1135-VN-1187        **Bryce M. Barclay\*** (`bmbarcl1@asu.edu`), School of Mathematical and Statistical, Sciences Box 871804, Arizona State University, Tempe, AZ 85287-1804. *Comparison of Simulated Models for ADR Systems to Idealized Models with Constant Reaction Propagation Speed.*

In recent years, a theoretical model has been developed to explain the exis- tence of one-sided barriers to reaction front propagation in advection-diffusion- reaction fluid flows. The theoretical model, however, assumes a sharp front and a constant propagation velocity in addition to the background flow. This talk will describe the discrepancies between this theoretical model and a nu- merically simulated model. We simulate the Fisher-Kolmogorov reaction in a four-gyre doubly periodic background flow, and analyze the difference be- tween the numerical and the theoretical front propagation subject to front curvature and concentration gradient. (Received September 20, 2017)