

SYMBOLIC DYNAMICS AND ABUNDANCE OF CONNECTING ORBITS BETWEEN PERIODIC ORBITS  
IN THE KURAMOTO-SIVASHINSKY PDE

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For some parameter value for the Kuramoto-Sivashinsky PDE on the line with odd and periodic boundary conditions we prove the existence of infinite number of homo- and heteroclinic orbits to two periodic orbits. The proof is computer assisted. We present a new algorithm for the rigorous integration of the variational equation (i.e. producing  $C^1$  estimates) for a class of dissipative PDEs on the torus.

*Joint work with Piotr Zgliczyński (Jagiellonian University, Poland).*