1145-35-379 **Yuri Latushkin*** (latushkiny@missouri.edu). *Stability of multidimensional fronts via exponentially weighted spaces.*

We study fronts for systems of reaction diffusion equations of a special type that often appear in combustion theory and chemical reaction models. The spectrum of the linearized operator touches the imaginary axis and therefore the system is studied in the intersection of the original Sobolev space and the space with an exponential weight. In the one-dimensional case we prove the existence of a stable foliation in vicinity of the front and thus explain orbital stability. In the multidimensional case we prove algebraic decay of perturbations of the planar front.

This is a joint project with Anna Ghazaryan (Miami University), Ronald Schnaubelt (Karlsruhe Institute of Technology, and Xinyao Yang (Xi'an Jiaotong-Liverpool University, Suzhou, China) (Received September 04, 2018)