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**Anna Ghazaryan** and **Yuri Latushkin\*** ([latushkiny@missouri.edu](mailto:latushkiny@missouri.edu)), Department of Mathematics, University of Missouri, Columbia, MO 65211, and **Xinyao Yang**. *Stability of one-dimensional and multi-dimensional fronts in exponentially weighted norms.*

We consider a class of systems of reaction diffusion equations that frequently appears in combustion theory and chemical modeling. We study stability of traveling fronts in both one-dimensional and multi-dimensional cases. The essential spectrum of the operator obtained by linearizing the system about the front touches the imaginary axis, and thus we have to work in the intersection of the spaces of functions with and without exponential weights. For the one-dimensional case we prove the existence of stable foliation in vicinity of the front (these results are obtained jointly with R. Schnaubelt). For the multi-dimensional case we extend the stability theorems to the case of exponentially weighted spaces, and prove algebraic decay of perturbations of the front. (Received January 07, 2017)