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Yuri Latushkin and **Xinyao Yang***, xinyao.yang@xjtlu.edu.cn. *Stability of a steady state in reaction diffusion systems arising in combustion theory in the one dimensional case.*

We prove that a steady state solution of a class of the reaction diffusion system is Lyapunov stable in the intersection of the Sobolev space and an exponentially weighted space. Special attention is given to a particular case, that is, the system of equations arising in combustion theory. The steady state solution considered herein is the end state of the traveling front associated with the system, and thus the current results complement recent papers by A. Ghazaryan, Y. Latushkin and S. Schecter where stability of the traveling fronts was investigated. (Received September 06, 2019)