

1116-VC-2885      **Xinyao Yang\*** (xywp8@mail.missouri.edu), 701 S. Providence Road, Apt 1-I, Columbia, MO  
65203. *Stability for Perturbations of a Steady State at the One Dimensional Case.*

In this presentation, stability results are proved for traveling waves in a class of d-dimensional combustion diffusion systems moving forward in a fixed direction  $e^{\vec{v}}$ . A weight function that decays exponentially is required to stabilize the spectrum. Perturbations of the steady state solution that are small in both the weighted norm and the unweighted norm are shown to stay small in the unweighted norm and to decay exponentially to a shift of the steady state in the weighted norm, provided the linearized operator has no eigenvalues in the right half-plane. A decomposition of the variables that yields a triangular structure for the linearization is used to prove the results. (Received September 22, 2015)