

**ASYMPTOTIC STABILITY OF A COMPOSITE WAVE OF TWO  
TRAVELING WAVES TO A HYPERBOLIC-PARABOLIC SYSTEM  
MODELING CHEMOTAXIS**

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**Abstract**

In this paper, we study the asymptotic stability of a composite wave consisting of two traveling waves to a hyperbolic-parabolic system modeling repulsive chemotaxis. Based on elementary energy estimates, we show that the composite wave is asymptotically stable under general initial perturbations which are not necessarily zero integral. As an application, we obtain a similar result for this system in the presence of a boundary.