1145-35-519 **Jeungeun Park*** (jeungeun-park@uiowa.edu), The University of Iowa, Department of Mathematics, 14 MacLean Hall, Iowa City, IA 52242. *Stability of traveling wave solutions of nonlinear conservation laws for image processing.* Preliminary report.

In image processing, nonlinear partial differential equations have been applied to images denoising and edge detection. One of the most well-known methods is based on the idea of anisotropic diffusion, which is proposed by Perona and Malik (PM) to reduce image noise without losing important image contents. Kurganov, Levy and Rosenau introduced a convection term in the PM equation to investigate the behavior of solutions which are typical of edges in images. In this poster, we study the existence and asymptotic stability of smooth traveling wave solutions to the Cauchy problem which combines a more general anisotropic diffusion and a general convection term. (Received September 08, 2018)