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Maomao Cai* (chloecai@weber.edu), 1702 University Circle, Ogden, UT 84408-1702, and
Dening Li and **Chontita Rattanakul**. *Solutions for 2-Dimensional Coupled
Kuramoto-Sivashinsky-KdV Equations.*

A stabilized Kuramoto-Sivanshinsky system consists of a mixed Kuramoto-Sivanshinsky-Korteweg-de Vries equation, linearly coupled to an extra linear dissipative equation. This system is proposed to describe the surface waves on multi-layered liquid films. In this work, we study a stabilized Kuramoto-Sivanshinsky system in two-dimensional space. Our studies consist of three parts: first, to investigate the stability of the solution to this system, we establish a priori energy estimate for the linearized problem of this non-linear system; second, we use linear iteration to prove the local existence of the solution to this system; third, we use a weak global priori energy estimate to further prove the global existence and uniqueness of classical solutions to this system. (Received September 09, 2009)