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Yu-Yu Liu* (yuyul@ncku.edu.tw). *Turbulent Flame Speeds of G-equation models in Steady/Unsteady Cellular Flows.*

Joint work with Jack Xin and Yifeng Yu (UC Irvine). Turbulent combustion is a nonlinear multiscale dynamical process. By level set formulation, G-equations describe the motion of the flame front by an advection term, a chemistry term and further nonlinear (diffusion, curvature, strain) terms. We perform numerical study of the asymptotic flame propagation speeds (turbulent flame speeds) which correspond to the effective Hamiltonian of the homogenized G-equations. (Received July 31, 2013)