STEADY CONCENTRATED VORTICITIES OF THE 2-D EULER EQUATION AND THEIR STABILITY

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Abstract: In this talk, we will consider the existence and uniqueness of steady concentrated vorticities of the 2-D incompressible Euler equation on smooth bounded domains and study their stability. Given steady nondegenerate point vortices configurations, we construct such steady piecewisely constant vortex flows and study their linear stability. Steady concentrated Lipschitz continuous vorticities are also been considered. Both of them are highly concentrated near the given steady vortex points. This talk is mainly based on a joint work with Prof. Yiming Long and Prof. Chongchun Zeng.