



北京理工大学

数学与统计学院学术报告

Small Scale Creation for 2D Free Boundary Euler Equations with Surface Tension

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摘要: We study the free boundary Euler equations modeling the motion of capillary water waves in 2D. We construct initial data with a flat initial interface and arbitrarily small velocity, such that the gradient of the vorticity grows at least double-exponentially for all times during the lifespan of the associated solution. This indicates that generic small rotational initial data will not lead to a small solution for all times, which is a sharp contrast to the irrotational water waves.