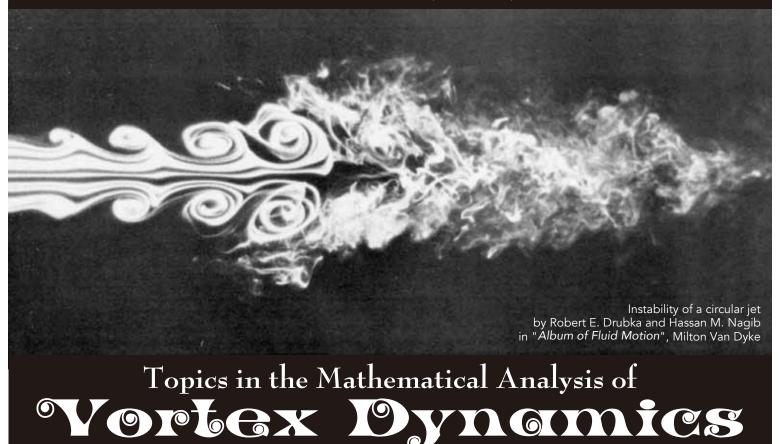
SGU 数学特別講義(流体数学)





Robert Krasny

Kyoto University / University of Michigan

Date Tuesday, October 7

Tuesday, October 28 Monday, November 17 Tuesday, November 25 Thursday, December 11

Time 15:00-18:00

Venue Room 108, Faculty of Science Bldg. #3

Kyoto University

After introducing the incompressible fluid equations, we present the following topics in the mathematical analysis of vortex dynamics,

(1) asymptotic analysis of singularity formation in an evolving vortex sheet (Moore 1979),

(2) dynamical systems analysis of transport, mixing, and chaos in the flow of an oscillating vortex pair (Rom-Kedar, Leonard, and Wiggins 1990).

Since these lectures are intended for students with diverse backgrounds in math and science, we present some background material, warm-up examples, and experimental results to motivate the interest in vortex dynamics. We also discuss related computations using vortex particle methods.