Investigation of vortex breakdown on delta wings using Navier–Stokes equations

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An efficient finite-difference scheme solving for the three-dimensional incompressible Navier–Stokes equations is described. Numerical simulations of vortex breakdown are then carried out for a sharp-edged delta wing and a round-edged double-delta wing at high Reynolds numbers. Computed results show that several major features of vortex breakdown are qualitatively in agreement with observations made in experiments.

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