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Spiral vortices in closed and open Taylor-Couette flow

Taylor-Couette flow, the flow of a viscous liquid in the gap between two concentric rotating cylinders, is one of the classical hydrodynamic systems to study bifurcations and the transition to turbulence. We present the results of a systematic experimental study on spiral vortices in closed Taylor-Couette system and an open Taylor-Couette system with an additional axial through flow. Numerous studies on the transition to spiral vortices in closed Taylor-Couette experiments have revealed the crucial importance of the finite axial extend as well as of end plates on the bifurcation structure. Theoretical investigations on bifurcations in open systems have shown that a finite spatial extend may give rise to new phenomena in the bifurcation structure and in dynamical behavior which differ qualitatively from those in infinite systems.

Freitag, 24. November 2006, 14 Uhr c.t.

Gebäude E2 6 (38), Seminarraum E. 04

Alle Interessenten sind herzlich eingeladen.

Die Sprecher des Graduiertenkollegs
Manfred Lücke und Ludger Santen

**Strukturbildung und Transport
in komplexen Systemen**