

Abstract Submitted
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Reaction-Diffusion Model Simulations relevant to Modified Taylor-Couette Flow in Systems of Varying Length¹ ANDREW HALMSTAD, THOMAS OLSEN, Lewis & Clark College, Portland, OR, RICHARD WIENER, Pacific University, Forest Grove, OR — Previously, we have observed a period-doubling cascade to chaos in Modified Taylor-Couette Flow with Hourglass Geometry². Such behavior had been predicted by The Reaction-Diffusion model³ simulations. The chaotic formation of Taylor-Vortex pair formation was restricted to a very narrow band about the waist of the hourglass. It was suggested that with increasing lengths of systems, the chaotic region would expand. We present a battery of simulations to determine the variation of the size of the chaotic region with length, seeking the transition to spatio-temporal chaos.

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²Richard J. Wiener *et al*, Phys. Rev. E **55**, 5489 (1997).

³H. Riecke and H.-G. Paap, Europhys. Lett. **14**, 1235 (1991).

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