

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Spatial Forcing in Thermal Convection GABRIEL SEIDEN, STEPHAN WEISS, EBERHARD BODENSCHATZ, Max Planck Institute for Dynamics and Self-Organization — An intrinsic characteristic of thermal convection is the preference of a particular wavenumber at onset. This fact renders experimental investigations of different important aspects, such as the exploration of phase space, difficult. The main tool employed to overcome this difficulty is spatial forcing, whereby, using external means, one forces a desired pattern and observes the evolution of the system thereafter. We present results on topologically and optically induced modulations of large aspect ratio isotropic (horizontal) and anisotropic (inclined layer) Rayleigh-Bénard convection. These include detailed bifurcation curves and phase diagrams for different forcing scenarios.

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Date submitted: 27 Nov 2007

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