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Localized convection in a rotating system CEDRIC BEAUME, HSIEN-CHING KAO, EDGAR KNOBLOCH, UC Berkeley, ALAIN BERGEON, Universite de Toulouse — We study two-dimensional spatially localized convection in a horizontal fluid layer rotating around the vertical and heated from below [1]. With stress-free boundary conditions stationary spatially localized convection is present [2]. These states are embedded in a background shear layer and lie on a pair of intertwined solution branches exhibiting “slanted snaking” [3]. Similar solutions with no-slip boundary conditions are no longer embedded in a background shear and exhibit standard snaking, i.e. snaking without a slant. These solutions may be stable [4]. Homotopic continuation from free-slip to no-slip boundary conditions is used to track the changes in the properties of the solutions and the associated bifurcation diagrams. An explanation of the results is given.

- [1] Veronis, J. Fluid Mech. 5, 401–435 (1959)
- [2] Beaume et al., J. Fluid Mech. 717, 417–448 (2013)
- [3] Dawes, SIAM J. Appl. Dyn. Syst. 7, 186–206 (2008)
- [4] Beaume et al., submitted

Cedric Beaume
UC Berkeley

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