Abstract Submitted
for the DFD15 Meeting of
The American Physical Society

Onset of chaos in orbital pilot-wave dynamics LUCAS TAMBASCO, MIT, DANIEL HARRIS, UNC, ANAND OZA, Courant Institute - NYU, RODOLFO ROSALES, JOHN BUSH, MIT — We examine the orbital dynamics of droplets self-propelling along the surface of a vibrating bath. Circular orbital motion may arise when the walking droplet is subjected to one of three external force fields, the Coriolis force, a simple harmonic force, and a Coulomb force. Particular attention is given to a theoretical characterization of the onset of chaos that accompanies the destabilization of such circular orbits.

Lucas Tambasco
MIT

Date submitted: 31 Jul 2015 Electronic form version 1.4