Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Multi-frequency and edge localized modes in mechanical and electrical lattices LARS ENGLISH, Dickinson College, FAUSTINO PALMERO, University of Seville, PANAYOTIS KEVREKIDIS, University of Massachusetts — We present experimental evidence for the existence of a type of dynamical, self-localized mode called a multi-frequency breather in both a mechanical lattice of pendula and an electrical lattice. These modes were excited and stabilized by subharmonic driving. We also experimentally characterize dynamical modes that are localized on the edges of the pendulum chain, as well as in 2D electrical lattices. In the latter system, we briefly discuss the role of lattice topology in the stability of such modes.

Lars English
Dickinson College

Date submitted: 06 Nov 2015 Electronic form version 1.4