Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Switchable topological phonon channels ROMAN SÜSSTRUNK, PHILIPP ZIMMERMANN, SEBASTIAN D. HUBER, ETH Zurich — Topological mechanical metamaterials offer a structured approach to create stable acoustic wave guides. The existence and stability of these wave guides is granted by the underlying topology, which typically allows to engineer arbitrarily shaped and backscattering free transport channels. However, due to their exceptional stability it can be tricky to terminate them or to temporarily shut them off without changing the material properties massively. I will discuss how one can take advantage of local symmetry breaking potentials to build a switchable topological phonon channel, and report on an experimental implementation of such a switch.

Roman Susstrunk
ETH Zurich

Date submitted: 11 Nov 2016 Electronic form version 1.4