Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Floquet topological phases with symmetry in all dimensions RAHUL ROY, FENNER HARPER, University of California, Los Angeles — Dynamical systems can host a number of remarkable symmetry-protected phases that are qualitatively different from their static analogs. We consider the phase space of symmetry-respecting unitary evolutions in detail and identify several distinct classes of evolution that host novel dynamical order. Using ideas from group cohomology, we construct a set of interacting drives that generate Floquet symmetry-protected topological order for each nontrivial cohomology class in every dimension. We go on to discuss symmetry-protected drives that lie outside of the cohomology construction and drives that are protected by antiunitary symmetries. The notions of order we define may be applied to general time-dependent systems, including many-body localized phases or time crystals.

Rahul Roy
University of California, Los Angeles

Date submitted: 11 Nov 2016 Electronic form version 1.4