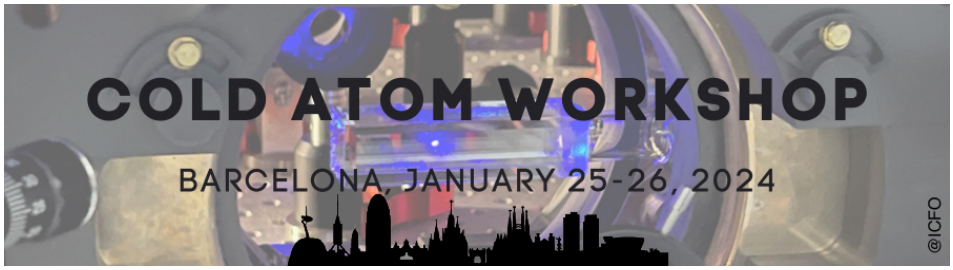

Contribution ID: **5** Type: **not specified**

Phononic Topological Dissipative Phases in Trapped Ions

Thursday 25 January 2024 10:40 (20 minutes)

Trapped ions can be used to simulate a rich variety of bosonic many-body phases that can be implemented with the vibrational degrees of freedom. We will show that by using parametric couplings, phonons in trapped ions can undergo topological dissipative phase transitions. The latter are the phononic counterparts of topological amplifiers, and can be used for sensing ultraweak forces and electric fields. We will present a theoretical framework for the description of dissipative topological phases that goes beyond trapped ions and can be used in other optomechanical, photonic, or ultracold atom systems.

Presenter: PORRAS (CSIC-MADRID), Diego

Session Classification: Day 1