Periodically driven chains with particle-hole symmetry

Marco Marciani\textsuperscript{a*}, Lavi K. Upreti,\textsuperscript{a} and Pierre Delplace\textsuperscript{a}

\textsuperscript{a} Univ Lyon, Ens de Lyon, Univ Claude Bernard, CNRS, Laboratoire de Physique, F-69342 Lyon, France

* marco.marciani@ens-lyon.fr

Periodically driven systems possess topological features that have no analog in static systems. In this talk, I will focus on driven chains with particle-hole symmetry. Here, non-trivial drives are responsible for the appearance of edge modes with quasi-energy pinned at half the driving frequency. We discover a novel and computable $\mathbb{Z}_2$ invariant associated to such states. Finally, I will discuss instances of optical and electronic systems where our theory might be tested.