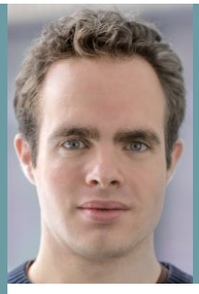
Meetings of the Belgian Quantum Physics Initiative

Colloquium



Dr. Mike Zaletel

UC Berkeley

Classical time crystals at finite temperature

"Time crystals" are dynamical systems which spontaneously break time translation invariance even in the presence of small but arbitrary perturbations. While thus far primarily discussed in the context of closed quantum systems protected by many-body localization, it's natural to wonder what other systems in the wild world of non-equilibrium many-body physics might exhibit such behavior.

Here I will discuss the case of a classical Hamiltonian coupled to a finite-temperature bath. Leveraging results from the theory of probabilistic cellular automata, I will argue that there are finite-temperature time crystals which are stable to infinite times and arbitrary small perturbations.

Thursday 6th of MAY 2021 AT 4.00 P.M.

Two short talks will follow:

5pm: Emmanuel Cruzeiro (ULB)
« The pretty good measurement is a pretty good classifier »

5:30pm: Maarten Van Damme (Ghent Univ.)
« Dynamical scattering of quasi-particles in quantum spin chains »

This BQPi Meeting will be held online (ZOOM)

contact: ngoldman@ulb.ac.be