

## *Time crystals from polymer chains*

Antti J. Niemi

Nordic Institute for Theoretical Physics (NORDITA), Stockholm, Sweden.

In my talk I will first explain what is a Hamiltonian time crystal. I will then show, how to construct examples in terms of models of closed linear polymer chains. The examples include also chains in the shape of knotted polymers. I then proceed to construct actual material examples, in particular cyclopropane  $C_3H_6$  and I show results from an extensive all-atom molecular dynamics simulation that appears to confirm cyclopropane as an excellent candidate for a Hamiltonian time crystal. At the end, I propose that many cyclopeptides could also be time crystals.