A cold grip on topology

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Abstract

The remarkable advances in cooling and manipulating atomic gases have opened up new avenues to explore fundamental ideas in quantum physics. Control over parameters at a microscopic level makes it possible to tailor the properties of the experimental systems almost at will. In my talk I will discuss the recent progress in creating topologically non-trivial systems and show how time-reversal symmetry can be broken in an optical lattice of honeycomb geometry. This enabled us to realize the topological Haldane model [1,2].
References:

: F.D.M. Haldane, Phys. Rev. Lett. 61, 2015–2018 (1988).

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