

M: Lewenstein: *Quantum Simulators of Lattice Gauge Theories*

In the talk I will review efforts of atomic physics community to realize quantum simulators of atomic systems in intense external gauge fields, and ultimately of lattice gauge theory models. Particular attention will be paid to non-Abelian gauge fields and possibilities of experimental realization of various types of topological insulators, fractional Hall states, and confinement-deconfinement transitions.