

# Quantum field theory of two-dimensional spin liquids

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An introduction to effective quantum field theories of spin liquids will be given. Special emphasis will be devoted to the so called  $U(1)$  spin liquids, whose effective field theory is compact QED in 2+1 dimensions. Lecture notes will be provided.

Contents:

1. Mott insulators
2. Dirac fermions in condensed matter: examples
3.  $U(1)$  spin liquids
4. Chiral spin liquids
5.  $Z_2$  spin liquids
6. Spinon deconfinement vs. quark deconfinement

