

## The magic of quantum spin systems from 1D to 3D

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Spins form well-defined lattices in many insulating quantum materials and serve as model systems in 1D, 2D and 3D to study many-body states such as correlated quantum dimers, Luttinger liquids, or magnon Bose-Einstein condensates. Neutrons and photons are unique tools for high-precision studies of such states under multi-extreme conditions in temperature, pressure and magnetic field. An overview of current frontiers in the field will be presented with special focus on exciting opportunities that close exchange between experiment, materials discovery, and theory offers.