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U(1)-gauged 2-flavor spin system in 3-D

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We study a U(1)-gauged 2-flavor spin system in 3 dimensions. For the gauge fields we use the Villain formulation with a constraint that removes lattice monopoles and in this form couple the gauge fields to 2-component spins. We discuss the simulation strategies for this highly constraint system and present first results for the phase structure.

Primary authors: GATTRINGER, Christof (Austrian Science Fund FWF); SULEJMANPASIC, Tin

Presenter: GATTRINGER, Christof (Austrian Science Fund FWF)

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