

Fluctuating triplet pairing, multiband superconductivity and an exactly solvable dissipative spin liquid

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In the first part of the talk, I will study the effect of fluctuations in two-dimensional systems with strong tendencies towards both spin magnetism and triplet superconductivity [1]. We will identify different vestigial phases and uncover unexpected spectral properties, which could explain puzzling experiments in graphene moiré systems. After discussing an alternative explanation of the experiments, involving multi-band superconductivity [2], I will present in the second part of the talk an exactly solvable model of a spin liquid Hamiltonian coupled to the environment [3]. We will see that this allows to map out the entire spectrum of the Lindblad superoperator, classifying operators according to how quickly they decay in time.

[1] arXiv:2301.01344.

[2] arXiv:2303.17529.

[3] arXiv:2307.05743.