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Quantum spin liquid states of the triangular Heisenberg-Kitaev model MATTHIAS PUNK, PAVEL KOS, Ludwig Max Univ Muenchen — We study quantum disordered ground states of the two dimensional Heisenberg-Kitaev model on the triangular lattice using a Schwinger boson approach. Our aim is to identify and characterize potential gapped quantum spin liquid phases that are stabilized by anisotropic Kitaev interactions. For antiferromagnetic Heisenberg- and Kitaev couplings we find three different symmetric Z_2 spin liquid phases, separated by two continuous quantum phase transitions. Interestingly, the gap remains finite throughout the transitions. We discuss how these spin liquid states are related to known ordered phases in the classical limit.

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