Order by disorder in kagome-type magnets[1] GIA-WEI CHERN, University of Wisconsin at Madison and Los Alamos National Lab, RODERICH MOESSNER, Max Planck Institute for the Physics of Complex Systems — Magnets on kagome lattice have been and continue to be the archetypical setting in which to study exotic order induced by geometrical frustration in theory and experiment. Apprxoimate realizations of kagome magnet has been observed in compounds such as SCGO and herbertsmithite. Artificial kagome spin ice has also been created using lithographically fabricated arrays of nanoscale magnets. The frustration comes from the fact that nearest-neighbor spin interactions on a network of corner-sharing triangles cannot be satisfied simultaneously, leading to a huge degeneracy in its classical ground state, for both discrete and continuous spins. Here, we present some recent progress in simulating numerically, and analysing field-theoretically, kagome magnets with differing sets of interactions.

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