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Phase-Space Networks of Frustrated Spin Models YILONG HAN,

Hong Kong University of Science and Technology — We propose a complex-network approach to study phase-space structures of frustrated spin models and lattice gas models. Their highly degenerated ground states are mapped as discrete networks such that the quantitative network analysis can be applied to phase-space studies. The resulting phase spaces share some common features and establish a class of complex networks with unique Gaussian spectral densities. A one-to-one correspondence is discovered between the six-vertex model (jigsaw puzzle) and sphere stack.

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