

Abstract Submitted
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Finding frustrations and topological phases in a quasi-1D zig-zag chain of dipoles NIRAJ R. GHIMIRE, SUSANNE F. YELIN, Univ of Connecticut - Storrs — The goal is to investigate frustrations that lead to interesting phases in a one-dimensional zig-zag chain of dipoles. This type of system could potentially be modeled by ultracold polar molecules, and be extended such that topological quantities in triangular or hexagonal lattices can be studied. To do so, we take into account the nearest-neighbor (NN) and next-nearest-neighbor (NNN) hopping and interactions and find the ground state of the spin $S = 1/2$ model by using the Density Matrix Renormalization Group (DMRG) method.

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