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Calculations of Domain Wall and Z_4 Vortex Energies in the Dimerized Phase of J1-J2 Heisenberg Model TYLER BRYANT, RAJIV R.P. SINGH, UC Davis — We develop a series expansion method to calculate the Domain Wall Energy per unit length and the Z_4 vortex energies in the dimerized phase of the J1-J2 Heisenberg Model. The energy difference between the state with and without domain walls is calculated by series expansions around two different dimer configurations. The calculations are used to study the transition away from the dimerized phase. These calculations are compared with other studies of the phase boundaries in this system.

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