

Abstract Submitted
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Magnetic field effects on the coexisting Bond-Charge-Density waves in the quasi-one-dimensional quarter-filled bands¹ SUMIT MAZUMDAR, University of Arizona, R. TORSTEN CLAY, Mississippi State University — Magnetic field effects on spin-Peierls systems have been of interest for a long time. The theoretical phase diagram consists of three different regions containing the homogenous dimerized and undimerized phases, and a magnetic phase consisting of a soliton lattice or an incommensurate phase. We have investigated numerically spin excitations and magnetic field effects on the bond-charge-density wave (BCDW) that appears below the spin-Peierls transition in the quarter-filled band organic charge transfer solids (CTS), with the specific goal of determining whether the simplest phase diagram, obtained within the spin model, applies also to the quarter-filled band where both charge and spin degrees of freedom exist. We also discuss recent experiments in quarter-filled band CTS within the context of our theory.

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