

## Interplay between Lattice Structure and Electronic Properties in Organic Conductors

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Theoretical studies on the ground states of low-dimensional quarter-filled organic conductors of charge transfer type have been carried out based on the Hartree-Fock approximation. By noting that the degree of the dimerization and the intersite Coulomb interaction,  $V$ , are the key factors, which are the origin of the Mott insulating and the charge ordered state, respectively, a systematic understanding of the physical properties for quasi-one-dimensional  $(\text{TMTCF})_2X$  and for various polytypes of quasi-two-dimensional  $(\text{ET})_2X$  has been achieved. As for  $(\text{ET})_2X$ , the unified model and the resultant phase diagram have also been proposed in which each member of  $(\text{ET})_2X$  is properly located.

**KEYWORDS:** Organic conductors, quarter-filling, dimerization, intersite Coulomb interaction, charge ordering, Mott insulators