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Nearest-Neighbor Repulsion and Competing Charge and Spin Order in the Extended Hubbard Model. DAVOUDI BAHMAN, A.-M.S. TREMBLAY\(^1\), Universite de Sherbrooke — We generalize the Two-Particle Self-Consistent (TPSC) approach to study the extended Hubbard model where the nearest-neighbor interaction \(V\) is present in addition to the local interaction \(U\). Our results are in good agreement with available Quantum Monte-Carlo results over the whole range of density \(n\) up to intermediate coupling. As a function of \(U, V\) and \(n\) we observe different kinds of charge and spin orders, like commensurate/incommensurate charge and spin density wave, phase separation, and ferromagnetic order. For attractive \(V\) superconductivity could exist in the regions where the other types of charge and spin orders do not dominate. Ref.: B. Davoudi and A.-M.S. Tremblay, cond-mat/0509707

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