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Enhancement of pairing in a boson-fermion model for coupled ladders JOSE RIERA, Universidad Nacional de Rosario-CONICET — Motivated by the presence of various charge inhomogeneities in strongly correlated systems of coupled ladders, a model of spatially separated bosonic and fermionic degrees of freedom is numerically studied. In this model, bosonic chains are connected to fermionic chains by two types of generalized Andreev couplings. It is shown that for both types of couplings the long-distance pairing correlations are enhanced. Near quarter filling, this effect is much larger for the splitting of a pair in electrons which go to the two neighboring fermionic chains than for a pair hopping process. It is argued that the pairing enhancement is a result of the nearest neighbor Coulomb repulsion which tunes the competition between pairing and charge ordering.

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