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Two-leg fermionic Hubbard model with a state-dependent hopping SHUN UCHINO, THIERRY GIAMARCHI, DQMP, University of Geneva — We study a two-leg fermionic Hubbard ladder model with a state-dependent hopping. We find that, contrarily to the case without a state-dependent hopping, for which the system has a superfluid nature regardless of the sign of the interaction at incommensurate filling, in the presence of such a hopping a spin-triplet superfluid, spin- density wave and charge-density wave phases emerge. We examine our results in the light of periodically-driven optical lattices in cold atoms. and give protocols allowing to realize the spin-triplet superfluid elusive in the cold atoms

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