

Abstract Submitted
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Pairing correlations in one-dimensional Bose-Fermi mixtures with molecular boundstates SHIMUL AKHANJEE, RIKEN - Condensed Matter Theory Laboratory, MASAHISA TSUCHIIZU, Nagoya University, AKIRA FURUSAKI, RIKEN - Condensed Matter Theory Laboratory — We study the ground-state properties of one-dimensional (1D) 3-component mixtures of Tonks bosons having infinite repulsion and nearly free fermionic atoms that can combine to form molecular fermions. Using a bosonization scheme, the form of the interaction is equivalent to the hopping term between weakly coupled spinless Tomonaga Luttinger liquids (TLL). Upon reduction of the energy scale, the 3-component TLL system scales down into a phase with coupled massive modes accompanied by pairing correlations.

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