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Exploring Conditions for Dynamical Fermionization in 1D Spinor Gases¹ SHAH SAAD ALAM, JERRY WANG, Rice Univ, TIM SKARAS, University of Oxford, HAN PU, Rice Univ — Dynamical Fermionization is a unique quantum phenomena in one dimensional bosonic gases with hard core contact interactions. When quenched from a harmonic trap to free expansion, the gas dynamically approaches the momentum distribution and real space density distribution of a non-interacting spinless fermionic TG gas. We present our study of this phenomena in 1D spinor gases with hardcore and strongly repulsive interactions, as well as its extension to quenches from different initial trapping potentials.

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