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PIMC study of spin-polarized 1D trapped fermions with strong attractive contact interaction CHANGMO YANG, University of Illinois — Spin imbalance in a trapped one-dimensional gas of ^{6}Li atoms ($F = 1/2$) is studied with continuous-space path-integral Monte Carlo simulation. This follows closely the experiment of Liao et al. [1], which aims to confirm the existence of the FFLO pairing predicted from the Bethe ansatz [2,3] and DMRG [4,5]. Algorithmic improvements [6] to the configuration-space sampling efficiency of a previous work [7] is made in order to explore the conditions where the attractive contact interaction between unlike-spin atoms can be stronger than in the previously accessible. Signatures of FFLO pairing is looked for in the pair momentum distribution.

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