

Abstract Submitted
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Expansion of 1D polarized superfluids HONG LU, L.O. BAKSMATY,
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of Physics, University of Cincinnati, HAN PU, Department of Physics and Astron-
omy, Rice University — We study the axial expansion dynamics of a one dimensional
polarized Fermi gas after suddenly released from the confining trap. We perform
our comparative studies using both mean-field Bogoliubov-de Gennes (BdG) and
the numerically exact Time-Evolving Block Decimation (TEBD) methods. Our re-
sults show that strong spin density modulations, which are manifesting signatures of
FFLO (Fulde-Ferrel-Larkin-Ovchinnikov) state and can be readily detected in exper-
iment, develop during the expansion of the cloud, giving incontrovertible evidence
to the FFLO state.

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