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Universal dynamics in a Unitary Bose Gas[1] CATHERINE KLAUSS, XIN XIE, JILA, DEBORAH JIN, ERIC CORNELL, JILA, NIST — Starting with a ^{85}Rb BEC, we investigate dynamics of a unitary Bose gas for timescales that are short compared to the three-body loss rates. We find that the momentum distribution of the unitary Bose gas evolves on timescales fast compared to losses, demonstrating that a unitary Bose gas can be created and probed dynamically, thus opening the door for further exploration of this novel strongly interacting quantum liquid. We further investigate whether the timescale for this evolution and the limiting shape of the momentum distribution are consistent with universal scaling with density.

[1]NASA, NSF

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