

Out-of-equilibrium dynamics of atomic Fermi gases quenched to strong repulsion

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We present our experimental study on the out-of-equilibrium dynamics of ultracold Fermi gases of 6Li atoms quenched to strong repulsion [1]. Similarly to pump-probe experiments performed in materials, we employ radio-frequency spectroscopy to selectively quench the gas onto the repulsive branch near a Feshbach resonance. We probe the emergence of anti- and pairing correlations in a time-resolved fashion and we measure the spectral response of atoms and pairs, retrieving the many-body dynamics in real time.

[1] A. Amico et al., Phys. Rev. Lett. (2018)