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**Beyond Landau Adiabaticity: Weak Interaction Quenches in a Fermi Gas** STEFAN KEHREIN, University of Munich (LMU), Germany, MICHAEL MOECKEL, Max Planck Institute of Quantum Optics, Garching, Germany — The crossover from Landau's Fermi-liquid paradigm with adiabatic switching on of the interaction to a sudden interaction quench is investigated [Phys. Rev. Lett. 100, 175702 (2008); Ann. Phys. 324, 2146 (2009); New J. Phys. 12, 055016 (2010)]. The real time dynamics for weak interactions is calculated in a systematic expansion and one finds three clearly separated time regimes: (i) An initial buildup of correlations where the quasiparticles are formed. (ii) An intermediate quasi-steady prethermalized regime resembling a zero temperature Fermi liquid with a nonequilibrium quasiparticle distribution function. (iii) The long-time limit described by a quantum Boltzmann equation leading to thermalization of the momentum distribution function. This thermalization behavior is contrasted with interaction quenches in 1d models.

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