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**Hydrodynamics from free-streaming to thermalization and back again**[1] CHANDRODOY CHATTOPADHYAY, ULRICH HEINZ, Ohio State Univ - Columbus — We explore the interplay of thermalizing and decoupling dynamics in (0+1)-dimensional expanding fluids with Bjorken symmetry by parametrically modifying the relaxation-time dependence of the Knudsen number, which controls the deviation of the system from local equilibrium. The corresponding response of the system characterized by its Reynolds number is shown to depict near-universal behavior whose trajectory as a function of the Knudsen number makes a characteristic turn as the system transits from a thermalizing to a decoupling regime. We argue that this feature is robust and should manifest itself in realistic 3-dimensional simulations of heavy-ion collision fireballs.

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