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Momentum-dependent 3-body loss in out-of-equilibrium 1D Bose gases LAURA ZUNDEL, LIN XIA, JEAN-FELIX RIOU, DAVID WEISS, Penn State University — We measure the 3-body loss rates for out-of-equilibrium one-dimensional Bose gases of varying average energies and infer that the three body collision cross section depends strongly on the momentum distributions. We present a loss model based on momentum dependent correlations and show that it describes the data well. Calculating correlations in out-of-equilibrium many-body systems remains a theoretical challenge. These experiments provide insight into how these correlations evolve.

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