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Quantum Monte Carlo study of the drag coefficient for two-component BECs[1] THOMAS GOLDSTEIN, CHRISTOPHER VARNEY, EGOR BABAEV, NIKOLAY PROKOFIEV, BORIS SVISTUNOV, University of Massachusetts, Amherst — Groundbreaking advances in experimental techniques for ultracold gases have resulted in considerable interest in multi-component systems, which exhibit richer physics than single species systems. Recent theoretical work has established the strong possibility of "entrainment" coupling between components in a two-component BEC. In this talk, we present quantum Monte Carlo simulations of the drag coefficient in a two-component Bose-Hubbard model. Next, we utilize Langevin dynamics to determine manifestations of the intercomponent drag in the ground state structure of vortices in multi-component superfluids.

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