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Kinetic coefficients of the two-dimensional attractive Fermi gas: beyond fermionic quasiparticles VILLE PIETILÄ, Department of Applied Physics, Aalto University, Värmemansgränden 2, 02150 Espoo, Finland, MEHRTASH BABADI, Department of Physics, California Institute of Technology, Pasadena, CA 91125, USA — We calculate the static and dynamic shear viscosity and spin diffusion coefficients of a two-dimensional attractive Fermi gas within the Nozières-Schmitt-Rink approximation, and study their evolution from the weak-coupling Fermi liquid to the strong-coupling composite Bose liquid regime. We find that the inclusion of bosonic contributions in the transport processes is crucial in order to explain the appearance of the hydrodynamic minimum of the kinetic coefficients, as also observed in recent experiments with two-dimensional ultracold Fermi gases.

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