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Anomalous conduction property in an attractively-interacting Fermi gas SHUN UCHINO, RIKEN, MASAHITO UEDA, the University of Tokyo, RIKEN — A strongly-interacting Fermi gas realized with ultracold atoms has attracted attention due to similarities to neutron stars and high-temperature superconductors. A new aspect of studies in such a system is to understand its nonequilibrium property through the transport that has been examined with a two-terminal setup realized by the Tilman Esslinger's group at ETH. In this talk, I will discuss its transport property through a quantum point contact. In the absence of an interaction, it is known that the conductance is quantized, which is nothing but Landauer's formula. However, in the presence of an interaction, we show that near the superfluid transition temperature, the conductance can be enhanced by superfluid fluctuations. There, fluctuation-pair transport is essential, which has been overlooked in previous studies. Our results are consistent with the experimental observations.

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