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Real time correlations in the Fermi-Hubbard model[1] EHSAN KHATAMI, San Jose State University, MATTHEW NICHOLS, MELIH OKAN, Massachusetts Institute of Technology, LAWRENCE CHEUK, Harvard University, ENRIQUE MENDEZ, THOMAS HARTKE, HAO ZHANG, MARTIN ZWIERLEIN, Massachusetts Institute of Technology — Quantum simulations with ultracold fermionic atoms in optical lattices have provided us with new insights into low-temperature properties of quantum lattice models of strongly-correlated electrons. Recent advances in creating and manipulating box traps have resulted in homogeneous systems and have paved the way for studying their transport properties. I will argue that dynamical properties of the Fermi-Hubbard model, such as conductivity, can be obtained more accurately through real time, as opposed to imaginary time, correlation functions at temperatures relevant to current experiments. I will present results for conductivity and other transport properties from the numerical linked-cluster expansions.

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