

Abstract Submitted  
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**Dynamical modulation of Optical lattices studied by a numerical investigation on response theory**<sup>1</sup> ZHAOXIN XU, SHIQUAN SU, DANIEL SHEEHY, Phys. & Astro. Dept. Louisiana State University, SIMONE CHIESA, Physics Department, University of California, Davis, SHUXIANG YANG, JUANA MORENO, MARK JARRELL, Phys. & Astro. Dept. Louisiana State University, RICHARD SCALETTAR, Physics Department, University of California, Davis — The response to the dynamical modulation of optical lattice potentials is studied by Determinantal Quantum Monte Carlo combined with the Maximum Entropy method. We simulate three and two-dimensional repulsive fermionic Hubbard models within the strong coupling regime and near half-filling for a wide range of temperatures. We discuss the relation between the first and second order response % to the dynamical modulation and the dynamical generated double occupancy and the relevance of bond order excitations near half-filling.

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