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Efficient DMFT simulation of the Holstein-Hubbard model[1]
PHILIPP WERNER, ANDREW J. MILLIS, Columbia University — We show that the hybridization expansion algorithm for quantum impurity models [PRL 97, 076405 (2006)] can easily handle a Holstein coupling to phonons. Our approach, which is based on the Lang-Firsov transformation, treats the phonons without approximations and does not affect the overall scaling of the algorithm. We apply the method to the Holstein-Hubbard model in the single site dynamical mean field approximation.

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