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Implementation of continuous-time QMC impurity solver for Dynamical Mean Field Theory MANCHEON HAN, CHOONG-KI LEE, HYOUNG JOON CHOI, Department of Physics and IPAP, Yonsei University, Center for Computational Studies of Advanced Electronic Material Properties, Yonsei University. — Dynamical mean field theory maps an interacting lattice problem to an interacting impurity problem in non-interacting bath. Continuoustime Quantum Monte Carlo (CT-QMC) method is numerically exact way to obtain a solution for such an impurity problem. We developed hybridization-expansion CT-QMC (CT-HYB) impurity solver and tested its validity by studying infinite neighbor Bethe lattice which has semicircular density of states and only local Hubbard interaction. This work is supported by the NRF of Korea (Grant No. 2011-0018306). Computational resources have been provided by KISTI Supercomputing Center (Project No. KSC-2013-C3-008).

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