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A continuous-time impurity solver for dynamical mean field theory[1] PHILIPP WERNER, ANDREW J. MILLIS, Department of Physics, Columbia University, MATTHIAS TROYER, Theoretical Physics, ETH Zurich — We present a new continuous-time impurity solver for dynamical mean field theory. The method is based on a diagramatic expansion in the quadratic part of the effective action, in contrast to a previous approach [A. N. Rubtsov et al., cond-mat/0411344], which uses an expansion in the interaction part. Interactions and chemical potentials are taken into account during the Monte Carlo sampling of certain collections of diagrams. Comparison to Hirsch-Fye QMC simulations shows that the new approach allows an efficient calculation of the Greens function even at very low temperatures.

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Philipp Werner
Department of Physics, Columbia University

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