Continuous-time method for quantum impurity models EMANUEL GULL, ETH Zurich, PHILIPP WERNER, Columbia University, OLIVIER PARCOLLET, Service de Physique Theorique, CEA/DSM/SPhT-CNRS/SPM/URA, MATTHIAS TROYER, ETH Zurich — We present a new continuous-time quantum Monte Carlo algorithm for quantum impurity problems. The method allows an efficient simulation of large cluster impurity models with density density coupling. We compare the computational effort and average sign to alternative quantum Monte Carlo approaches, such as the discrete-time Hirsch-Fye algorithm [J. E. Hirsch and R. M. Fye, Phys. Rev. Lett. 56, 2521 (1986)] and the weak coupling solver by Rubtsov, Savkin and Lichtenstein [Phys. Rev. B 72 035122 (2005)]

Emanuel Gull
ETH Zurich

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