MO 11: Poster: Theory

Time: Tuesday 16:00–18:30

Location: Lichthof

MO 11.1 Tu 16:00 Lichthof

Non-Markovian memory from time-local stochastic trajectories — •Werner Koch and Frank Grossmann — Institut für Theoretische Physik, TU Dresden, 01062 Dresden, Germany

Markovian approximations have seen an impressive range of applications from nuclear and molecular to optical physics. In cases where the strict ranges of applicability of a certain approximation are transgressed, this does not necessarily void the results obtained from such a scheme. A comparison of such approximate results with the full non-Markovian treatment can identify the true limits for the (usually less arduous) Markovian method and highlight the details of how it fails. We present such an investigation for trajectory based implementations of the non-Markovian Stochastic Liouville-von-Neumann method [1] and a finite difference implementation of the Markovian Caldeira-Leggett master equation [2].

[1] J. T. Stockburger, H. Grabert, Chem. Phys. 268 (2001) 249-256.
[2] F. Grossmann, W. Koch, J. Chem. Phys. 130 (3) (2009) 034105.