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Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme
Fachbereich Physik, Universität Stuttgart

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Login data will be announced by e-mail and on the colloquium webpage.

Dienstag, 17. November 2020 | **16.15 Uhr** | **Online-Vortrag**

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Quantum processes described by classical simulations

Jeremy Richardson
ETH Zürich

Abstract

I will describe various approaches in which quantum effects can be simulated accurately and efficiently using classical algorithms. With one set of methods, we can study tunnelling in proton- and electron-transfer reactions, and can take account of the geometric phase in molecules with conical intersections. With another approach, classical trajectories simulate nonadiabatic dynamics including electronic coherence and decoherence in a way which captures the entanglement neglected by mean-field methods.