Contribution ID: **220** Type: **Talk**

Real-time simulation of dissipation-driven quantum Systems

Wednesday, 15 July 2015 16:50 (20 minutes)

We set up a real-time path integral to study the evolution of quantum systems driven in real-time completely through the coupling of the system with the environment. This can also be interpreted as measurements being performed on the system. For a spin-1/2 system, in particular, when the measurement results are averaged over, the resulting sign problem completely disappears, and the system can be simulated with an efficient cluster algorithm.

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Session Classification: Theoretical Developments

Track Classification: Theoretical Developments