Contents

Theme issue: Loschmidt echo and time reversal in complex systems

INTRODUCTION
Loschmidt echo and time reversal in complex systems
A Goussev, RA Jalabert, HM Pastawski and DA Wisniacki

ARTICLES
A semiclassical reversibility paradox in simple chaotic systems
S Tomsovic

Path integral approach to the quantum fidelity amplitude
J Vaniček and D Cohen

Lyapunov decay in quantum irreversibility
I García-Mata, AJ Roncaglia and DA Wisniacki

A generalized fidelity amplitude for open systems
T Gorin, HJ Moreno and TH Seligman

Applications of fidelity measures to complex quantum systems
S Wimberger

Dynamical phase transitions and Loschmidt echo in the infinite-range XY model
B Žunković, A Silva and M Fabrizio

The semiclassical propagator in Fock space: dynamical echo and many-body interference
T Engl, JD Urbina and K Richter

Loschmidt echo in many-spin systems: contrasting time scales of local and global measurements
PR Zangara, D Bendersky, PR Levstein and HM Pastawski

Quantum dynamics of excitations and decoherence in many-spin systems detected with Loschmidt echoes: its relation to their spreading through the Hilbert space
CM Sánchez, PR Levstein, L Buljubasich, HM Pastawski and AK Chattah

Microwave experiments in the realm of fidelity
U Kuhl

From Loschmidt daemons to time-reversed waves
M Fink