Spacetime Memory: Phase-Locked Geometric Phases

Binder, Bernd (2002) Spacetime Memory: Phase-Locked Geometric Phases.

Abstract

Spacetime memory is defined with a holonomic approach to
information processing, where multi-state stability is introduced by a non-linear phase-locked loop. Geometric phases serve as the carrier of physical information and geometric memory (of orientation) given by a path integral measure of curvature that is periodically refreshed. Regarding the resulting spin-orbit coupling and gauge field, the geometric nature of spacetime memory
suggests to assign intrinsic computational properties to the
electromagnetic field.

Keywords:	quantum, computing, geometric, phase, berry, spacetime, fine structure, memory, curvature, computer, bit, iteration
Subjects:	Specific Sciences: Complex Systems Specific Sciences: Computer Science Specific Sciences: Physics: Fields and Particles Specific Sciences: Mathematics Specific Sciences: Physics: Quantum Mechanics
ID Code:	781
Deposited By:	Binder, Bernd
Deposited On:	02 September 2002