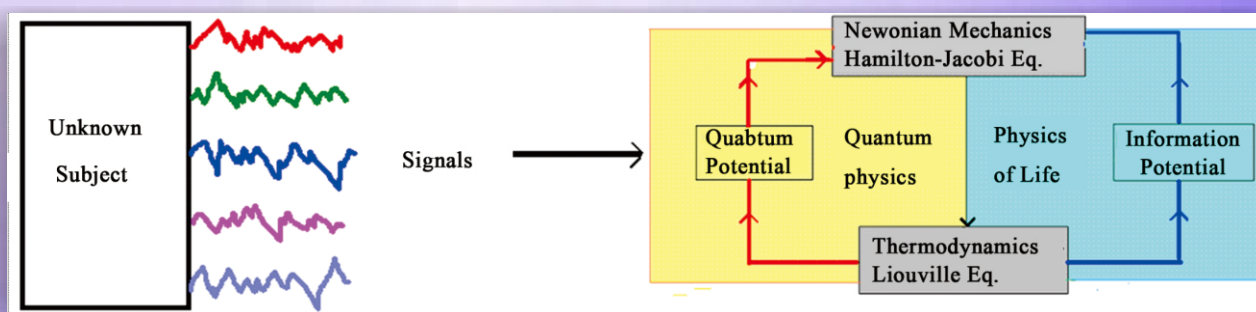




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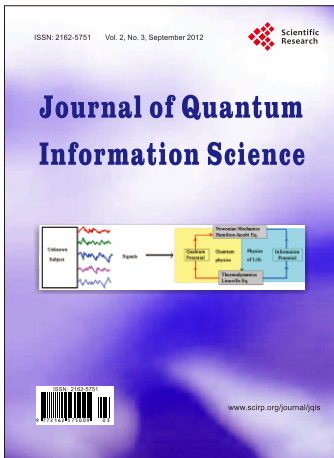
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Subject Coverage

The field of Quantum Information Science is the most challenging and hot topic among all branches of science. This field is also quite interdisciplinary in character, and people from quantum theory, computer science, mathematics, information theory, condensed matter physics, many-body physics and many more have been actively involved to understand implications of quantum mechanics in information processing. JQIS aims to publish research papers in the following areas:

- Dynamical Maps: Study of open quantum system; Complete positivity; Beyond completely positive maps; Quantum dynamics as resources.
- Experimental Implementation: Implementation of quantum algorithms and information processing protocols with NMR devices; Ion traps; Neutral atoms; Solid state devices; Quantum optical methods; Cavity QEDs and any other innovative proposals.
- Geometric Quantum Computation: Computation by geometrical phases; Mixed state geometric phases; Abelian; Non-abelian and topological phases; Phase holonomies under unitary evolution and CP maps.
- Quantum Computation: Quantum algorithms; Quantum complexity; Simulation of complex systems; Quantum memory; Quantum mechanical automata; Quantum universal constructors; Quantum algorithms and computations with continuous variables.
- Quantum Cryptography: Application of quantum mechanics in communication; quantum key distribution; Quantum bit commitment; Different kind of attacks on cryptographic protocols.
- Quantum Entanglement: Bell's inequality and non-locality issues; Quantification of entanglement; Measures of entanglement; Entanglement as resource; Detection of entanglement; Conversion of entanglement; Theory of majorisation.
- Quantum Information Processing Protocols: Teleportation; Entanglement swapping; Remote state preparation; Remote state measurement; Entanglement concentration and purification methods; Telecloning; Information concentration.
- Quantum Information Theory: Fundamental issues in quantum information; Quantum cloning; Quantum deleting; Quantum coding; Channel capacities; Data compression; Quantum error-correction; Decoherence; Optimal quantum measurements.
- Relativistic Quantum Information Theory: Entanglement and relativity; Sharing of reference frames in information theory and relativity; Various concepts of quantum information theory in relativity.

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