

CALL for PAPERS (Special Issue) INTERNATIONAL JOURNAL of QUANTUM INFORMATION Quantum Correlations: entanglement and beyond



Quantum correlations have been the subject of intensive studies in the last two decades, mainly due to the general belief that they are fundamental resources for quantum information processing and other tasks in quantum technology. The first rigorous attempt to address the classification of quantum correlations was put forward by Werner, who formalized the elusive concept of quantum entanglement. More recently, other quantities, as such quantum discord, have been proposed to capture different aspects of the quantumness of correlations. In parallel, several applications where quantum, classical, hybrid correlations play a role have been suggested and implemented. Among them we mention quantum imaging, interferometry, state engineering, computing and entanglement-assisted quantum measurements.

This special issue is aimed to collect papers addressing both fundamental problems and applications, thus offering to readers comprehensive and up-to-date overview on the characterization and use of quantum correlations.

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We welcome papers that address fundamental aspects of quantum and classical correlations in discrete and continuous variable systems, propose implementations to make quantitative measurements of quantum correlations, or describe experiments that exploit quantum correlations as a resource for quantum technology.

Possible topics include, but are in no way limited to: characterization and measurement of entanglement and quantum discord, discrimination of classical and quantum correlations in quantum systems, applications of quantum correlations to quantum technology, dynamics of quantum correlations in open systems, decoherence, metrology, error correction.

Manuscripts should be submitted to matteo.paris@fisica.unimi.it with subject "[QCSPE]" and must meet the normal refereeing standards of IJQI.

LaTeX is the exceedingly preferred format, IJQI macros are available at http://www.worldscinet.com/style_files/ijqi/187-readme_2e.shtml

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