Computer algebra in quantum computing and quantum information theory

Special Session at the 21st International Conference on Applications of Computer Algebra 2015 (ACA2015), July 20-23, 2015, Kalamata, Greece.

Aims and scope

The aims of this session are to exchange recent results and ideas concerning the application of numerical, symbolic and algebraic methods in quantum information processing and quantum mechanics. Topics to be considered include (but are not limited to):

- simulation and modeling of quantum computation;
- symbolic and numerical methods applied to solving the Schrodinger equation;
- algebraic and geometric analysis of quantum algorithms and protocols;
- methods for constructing and optimizing quantum computational circuits;
- algebraic methods in quantum cryptography;
- quantifying quantum entanglement;
- quantum walks and their utilization for modeling quantum networks;
- quantum automata and algebraic groups;
- logic and algebraic structures from quantum computation;
- quantum programming languages.

Organizers

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If you are interested in giving a presentation at this session, please email an abstract to one of the organizers. The duration of a talk is to be 30 minutes including time for discussion. Deadline for talk submissions is May 15th, 2015.

More information about the sesion can be found at
https://www.iitis.pl/~miszczak/aca2015/
and at the ACA2015 conference web page
http://www.singacom.uva.es/ACA2015/