Efficient Quantum Algorithms and Measurements for Green Quantum Technologies

Alessio Avella & Fabrizio Piacentini

INRIM - Istituto Nazionale di Ricerca Metrologica, Torino (IT)



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The new Quantum Revolution



Quantum Computation







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Quantum technologies made green

Quantum technologies, especially quantum computation and quantum cryptography, will have a major impact on our society in the near future, causing an actual revolution and even contributing to find smart "green" solutions in several fields.

For this reason, reducing their energy consumption and carbon footprint is crucial for a planet-friendly approach of these technologies.

Efficient quantum computation and communication methods:

- Faster quantum algorithms will require less operations, needing less power for their implementation and, thus, saving (quantum) resources.
- Increase the quantum communication systems efficiency will reduce the number of trusted nodes needed for a long-distance secure communication.

Low-impact quantum technologies characterization

- Novel measurement paradigms allowing for a more precise characterization of quantum computation and communication devices.
- New standardization protocols for resource-saving production and characterization of marketed quantum technologies.

