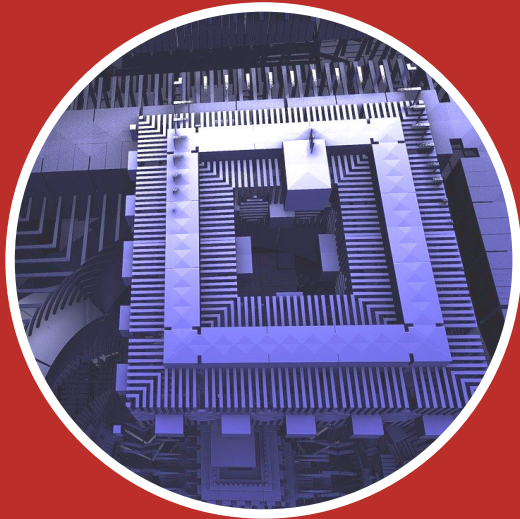


# SENDING CLASSICAL DATA IN QUANTUM INFORMATION

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA



The invention refers to a method to piggyback classical information on quantum information protected by QECC.

**Protection:** International (PCT)

**Inventors:** Marco Chiani

## INVENTION

Quantum information processing by systems including quantum computers and quantum networks have been known since some years. Despite the potential advantages in exploiting the quantum mechanics to process information, there are still several problems to solve in the path towards large-scale quantum computers and quantum networks. The invention provides a method that allows operating with **qubit** without needing out-of-band control and signaling. In particular, the patented method allows to write and read classical information on quantum information, using the **error syndromes** of a QECC, without destroying the quantum superposition.

## ADVANTAGES

- Secure exchange of data;
- High accuracy in measurements.

## APPLICATIONS

- Quantum computing;
- Quantum networks;
- Quantum communication;
- Quantum sensing and metrology.

## CONTACTS

Knowledge Transfer Office

[www.unibo.it/patents](http://www.unibo.it/patents)

+39 051 20 80 635 - 683

[kto@unibo.it](mailto:kto@unibo.it)



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA