

Title:

Quantum-Cloud-Computing and MIMO Communication: Unification, Fault Tolerance, and Bestgo Scheduling with Blockchain and Big Data

Abstract:

We develop a smart generic system that unifies quantum cloud-computing and MIMO wireless communication into a single system for resources-competing users. Inside the system, network hardware architecture and software structure are designed by high-performance cloud quantum-computers and quantum blockchain for the evolution of the current Internet to the future quantum IP based one. User's qubit based arrival data streams are described by big data flows whose random dynamics is accurately modeled by our recently known stochastic models. Fault tolerance with optimal error correction and service capacity via our latest mutual information formula are presented. Smart BestGo resource allocation policies within quantum blockchain are dynamically proposed via Nash equilibrium points to a game-theoretic scheduling problem. Numerical implementations will be presented to illustrate the effectiveness of our system and policies.