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Integrating a QC in an HPC environment: the future of quantum accelerators in Italy and Europe

Thursday 1 June 2023 09:30 (50 minutes)

This talk explores the integration of Quantum Computers (QCs) within High-Performance Computing (HPC) environments and its significance for Italy and Europe. Representing CINECA, the largest Italian supercomputing center and an EuroHPC selected quantum computer hosting entity, we will discuss about the EuroQCS initiative, an European collaboration involving different countries (including Spain) that aims to facilitate the sharing of quantum computing resources across Europe.

We delve into the potential benefits of integrating quantum accelerators with HPC infrastructures. Challenges such as hardware compatibility, programming models, and software stack optimizations are addressed. Emphasizing hybrid approaches that leverage the strengths of both quantum and classical computing, we highlight the need for seamless integration

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