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Utilizing Superconducting Quantum Computer for Education and Research

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With a growing interest in quantum technology globally, there is an increasing
need for accessing relevant physical systems for education and research. This talk introduces a commercially available on-site quantum computer utilizing superconducting technology. We show how this system can be used in education to
teach quantum concepts and deepen understanding of quantum theory and quantum computing. It offers learning opportunities for future talent and contributes
to fundamental research and technological progress. We highlight the advantages of having complete hands-on access to the hardware. As educational and research use cases we demonstrate the violation of CHSH inequality, a GHZ state experiment offering intuitive account for decoherence and simulation of neutrino flavor oscillations.

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