

Quantum Technologies for High Energy Physics: the CERN Quantum Technology Initiative

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CERN, the European Organisation for Nuclear Research, operates the largest particle accelerator in the world and has a long tradition of collaboration and excellence in fundamental physics research. Quantum Technologies have seen an incredible development over just the last few years in all their aspects, computing, sensing, communications and theory. After a few years of pilot investigations, CERN has announced the creation of its Quantum Technology Initiative to understand the potential of these technologies for High Energy Physics, but also to contribute to their future development. This talk highlights the main objectives and current activities of the CERN Quantum Technology Initiative. A special emphasis will be placed on the Quantum Computing aspect and the activities carried out by CERN openlab, outlining the initial investigations that use quantum machine learning in High Energy Physics.

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