



Doctoral Student Project

Position B

One of the main goals of the Quantum Technology Initiative is to assess the potential impact of quantum technologies on CERN and the broader high-energy physics community. One possible impact is due to novel quantum devices and detectors, which are capable of extremely precise measurements, assuming appropriate mitigation of noise sources.

This project focuses on one such class of detectors, namely interferometers. These experiments present exciting new opportunities to probe the quantum realm, including the hunt for novel sources of gravitational waves, new exotic forces and dark sectors. As the sensitivity and frequency range of these detectors depends on their size, there are recently proposals to scale up these table-top experiments to the 100m or 1km scale.

This project bridges the theoretical and experimental landscape of new physics that these experiments could probe, with a particular view towards studying the unique capabilities of the larger-scale proposals as novel probes for new physics.

An important component of this program is investigating the role of computer codes for background reduction and decorrelation, capitalizing on the expertise of CERN's IT division.

For more information about the CERN Doctoral Student Programme and to apply:
<https://jobs.smartrecruiters.com/CERN/743999727905858-doctoral-student-programme>

When applying, please express your interest for the "CERN QTI position B".

Deadline for applications: **Wednesday 24 March 2021 at 12pm (CET)**