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Superconducting RF research in Canada

Monday, 6 June 2022 11:00 (15 minutes)

Superconducting Radio-frequency (SRF) technology using niobium accelerating cavities enables high performance and efficient acceleration for modern accelerator projects. These projects deliver accelerators that serve different fields of science, dominated by sub-atomic physics, photon science and applications. Global R&D in SRF science and technology focusses on: 1) Reducing rf losses, 2) Increasing accelerating gradients 3) Developing new materials beyond Niobium. In Canada, TRIUMF and CLS both utilize SRF technology in their on-site accelerators. TRIUMF has had an active SRF R&D program since 2000 to support the development of in-house accelerators, to support global collaborations and to support student focused fundamental studies. Recent developments together with the U. of Victoria key on the study of coaxial cavities for hadron acceleration as well as the characterization of SRF materials using a variety of material science techniques. In particular, a new beamline has just been commissioned at the beta-NMR facility at TRIUMF for depth resolved studies of the Meissner state at high parallel fields. The talk will give an overview of SRF science and technology in Canada.

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Session Classification: M1-6 Accelerator Developments in Canada (DAPI) | Progrès dans les accélérateurs au Canada (DPAI)

Track Classification: Technical Sessions / Sessions techniques: Applied Physics and Instrumentation / Physique appliquée et de l'instrumentation (DAPI / DPAI)