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Muon beams at Fermilab

Thursday 9 September 2021 13:20 (25 minutes)

Muon is an unstable particle, that plays a rather unique and versatile role in physics measurements. Fermilab has currently a very active muon program with the goal to carry out a sensitive test of the Standard Model as well as to set extraordinary limits on charged-lepton-flavor-violating processes. For instance, the Fermilab g-2 experiment will determine with unprecedented precision the anomalous magnetic moment of the muon while the Mu2e experiment will substantially improve the sensitivity on the search for Charged Lepton Flavor Violation process of a neutrinoless conversion of a muon to an electron. In this talk, I will present an overview of the involved accelerator technology in the design and construction of the aforementioned experiments. I will present recent results from commissioning the beamlines for the Muon g-2 experiment as well as discuss some innovative techniques that we have integrated so that to maximize the muon flux. Finally, I will discuss opportunities for future work.

Presenter: STRATAKIS, Diktys (Fermilab)

Session Classification: WG 3 + WG 4 (WG3 zoom)