Contribution ID: **47** Type: **Talk**

Searching for Muon to Electron with the COMET Experiment

Tuesday, 2 August 2022 18:00 (30 minutes)

Muon to electron conversion, an example of charged lepton flavour violation (CLFV), provides a clear experimental probe into new physics beyond the Standard Model. The COMET experiment at J-PARC will use the highest intensity muon beam to search for muon to electron conversion using a staged approach, with sensitivity levels in reach of many new physics models. With a single event sensitivity of 3×10^{-15} in Phase-I and 3×10^{-15} in Phase-II, COMET will provide about x100 and x10000 improvement on current muon to electron conversion bounds respectively. In addition, an initial stage called Phase-α is being prepared to measure extinction protons and provide more precise muon and pion production rates for these upcoming physics runs. Construction of Phase-I is in progress with physics runs expected to start in 2024. This talk will provide an overview of the physics motivations for COMET and the current status of Phase-α, Phase-I and Phase-II development.

Attendance type

In-person presentation

Primary author: DEKKERS, Sam (Monash University)

Presenter: DEKKERS, Sam (Monash University)

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