

COMET muon to electron conversion experiment in J-PARC

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COMET experiment at J-PARC, Japan is aiming for the observation of charged lepton flavor violation (CLFV) process in which muon converts into electron without neutrinos. The expected single event sensitivity for this process is 3.1×10^{-15} for Phase-1 and 2.6×10^{-17} for Phase-2, which are the improvements of two and four orders of magnitude, respectively. In this presentation, recent progress in facility, detector R&D will be presented with a special focus on the tracking method. The feasibility of observing the muon to positron conversion, which is the charged lepton number and flavor violation process (CLNFV), will also be addressed as an available physics program of COMET Phase-1, planned in 2018.

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Session Classification: The "intensity frontier": high intensity experiments, rare processes and precision tests