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The COMET Experiment at J-PARC

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The COMET (COherent Muon to Electron Transition) experiment at the Japan Proton Accelerator Research Complex (J-PARC) is a cutting-edge high-energy physics experiment that aims to search for the muon-to-electron conversion process, which is a rare phenomenon that would be a clear indication of physics beyond the Standard Model. The COMET experiment utilizes a high-intensity proton beam from the J-PARC accelerator to produce a substantial quantity of muons, thereby enabling it to enhance the existing record sensitivity of muon-to-electron conversion search by a remarkable factor of 10,000. During this presentation, we will provide an introduction to the COMET experiment, its objectives, its experimental configuration, as well as its present progress.

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