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## **Preliminary Design of a Cosmic Ray Veto (CRV) Detector System for the Muonium-to-Antimuonium Conversion Experiment (MACE)**

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The Muonium-to-Antimuonium Conversion Experiment (MACE) aims to search for the charged lepton flavor violation process at an unprecedented level. A significant challenge arises from cosmic-ray-muon-induced background in both the Phase-I and the complete experiment. To address this, a muon detection system with a high efficiency is required. In this work, we focus on a design of Cosmic Ray Veto (CRV) detector system and its expected performance.

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