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Muon acceleration for the muon g-2/EDM experiment at J-PARC

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The muon anomalous magnetic moment (g-2) measurement by the Fermilab National Accelerator Laboratory (FNAL-E989) is consistent with a previous experiment by the Brookhaven National Laboratory (BNL-E821), with a deviation from the SM prediction of 4.2 standard deviations. This discrepancy could lead to the discovery of unknown particles, and a completely different approach from previous experiments is needed for further verification. The J-PARC experiment aims to measure muon g-2 and the electric dipole moment (EDM) with high precision using a new method with a low-emittance muon beam generated by RF linear acceleration. This paper describes the development of the world's first linear accelerator dedicated to muons.

Attendance type

Virtual presentation

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