

Internal Structure of Hadrons - Understand Strong Interactions and the Standard Model

Tuesday 3 December 2024 09:00 (1 hour)

The mechanism of hadron mass generation through the strong interactions of quantum chromodynamics (QCD) accounts for most matter in the visible universe. The pattern of its momentum dependence reflects in the internal structure of mesons and baryons. In this connection, we provide a selective overview of the progress in the computation of the hadron electromagnetic and transition form factors and the corresponding experimental efforts at the Thomas Jefferson National Accelerator Facility, the planned Electron-Ion Collider and other hadron physics laboratories, making comparisons with observations and predictions from other theoretical tools. We also discuss the implications of these efforts for the tests of the celebrated Standard Model of particle physics, in particular the anomalous magnetic moment of the muon.

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