

XVth Quark Confinement and the Hadron Spectrum



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Gravitational Form Factors of the Proton

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For over seventy years, the internal structure of the proton has been studied using electromagnetic interactions to measure elastic form factors. The quark structure has been explored for over fifty-five years, and the helicity structure for over forty years. However, our understanding of the proton's mechanical properties—such as internal mass distribution, angular momentum, pressure, and shear stress—remains limited. These properties are encoded in gravitational form factors. In this talk, we will present the pioneering extraction of the pressure and force distribution within the proton. Additionally, we will discuss ongoing and future experiments aimed at achieving a more precise understanding of the proton's mechanical properties.

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