

Deeply virtual scattering in QCD

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For a long time, it was believed that the fundamental constituents of atoms were electrons and nucleons being both elementary. Experiments conducted in the late 1960s at Stanford Linear Accelerator Center (SLAC) proved the existence of internal degrees of freedom in the nucleons. These ones are called quarks and gluons, or collectively partons. With QCD as the fundamental theory for strong interactions, we can describe hadronic structure via correlators of partons giving rise to the so-called parton distribution functions (PDFs) and generalized parton distributions (GPDs) when the so-called collinear factorization applies. The non-elementary nature of hadrons makes these correlators perturbatively unsolvable so we can only measure or model them.

This seminar attempts to show the different ways to access such correlators and how they provide information on the structure of the hadrons. For this purpose, different processes in QCD will be explained and the latest results in theory and phenomenology will be discussed.

Presenter(s) : MARTINEZ-FERNANDEZ, Victor