

UCLA NUCLEAR PHYSICS SEMINAR

THE INNER LIFE OF PROTONS: QCD AT WORK FROM THE LHC TO ICECUBE

Presented by: Juan Rojo
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The determination of the partonic structure of the proton, quantified by the Parton Distribution Functions (PDFs), is a central component of the physics program at the Large Hadron Collider (LHC). In this talk, I review our current understanding of the quark and gluon structure of the proton, which emphasizes the implications for LHC phenomenology and searches for new physics. I will then also discuss other recent perspectives of the nucleon structure for applications in other fields, in particular their impact in high-energy neutrino telescopes and for the characterization of the quark-gluon plasma in heavy ion collisions.

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