Laboratório de Instrumentação e Física Experimental de Partículas

LIP Seminar

Thursday, 18 of November 2021, 11h30

Exploring the hadronic universe with COMPASS

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(LIP)

COMPASS is a high-energy physics experiment at the Super Proton Synchrotron (SPS) at CERN. It is a highly modular fixed-target experiment, using secondary hadron beams and as well tertiary polarized muon beams, in order to address a wide range of QCD-related topics.
The present physics programme of COMPASS, phase II, is primarily dedicated to the transverse and 3D structure of nucleons using Deeply Virtual Compton scattering (DVCS), Hard Exclusive Meson Production (HEMP), SIDIS and polarized Drell-Yan (DY) reactions. Hadron spectroscopy studies are also pursued, the experiment having collected the largest data sample presently available in the world.
In the seminar the most relevant recent COMPASS results will be presented.
The importance of partonic transverse degrees of freedom in our understanding of the nucleon has been recognized in the course of the last decade, motivating the detailed measurements of transverse momentum dependent parton distribution functions (TMD PDFs) and generalized parton distributions (GPDs), both polarized and unpolarized. The way partons hadronize into final state hadrons, the so-called fragmentation functions, are as well essential to interpret any leptonic hard scattering or e+e- collision processes, being the subject of dedicated COMPASS studies. Finally, the diversity of hadronic excited states, exotic and hybrid, is explored in COMPASS, namely in the light meson sector.

Location 1: LIP Seminar room, AV. Prof. Gama Pinto 2, Complexo Interdisciplinar (3is) 1649-003 Lisboa
Location 2: Videoconference - Zoom
https://indico.lip.pt/event/1069/

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