

Hauptvortrag

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Recent Results from the COMPASS Experiment — ●FRANK
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The COMPASS experiment at the CERN SPS investigates the structure and spectrum of hadrons by scattering high energetic hadrons and polarized muons off various fixed targets. During the years 2002-2007, COMPASS focused on nucleon spin physics using 160 GeV/c polarised μ^+ beams on polarised deuteron and proton targets, including measurements of the gluon contribution to the nucleon spin using longitudinal target polarisation as well as studies of transverse spin effects in the nucleon on a transversely polarised target. One major goal of the

physics programme using hadron beams is the search for new states, in particular the search for J^{PC} exotic states and glueballs. COMPASS measures not only charged but also neutral final-state particles, allowing for investigation of new objects in different reactions and decay channels. In addition COMPASS can measure low-energy QCD constants like, e.g. the electromagnetic polarisability of the pion. Apart from a few days pilot run data taken in 2004 with a 190 GeV/c π^- beam on a Pb target, showing a significant spin-exotic $J^{PC} = 1^-+$ resonance at around 1660 MeV/ c^2 , COMPASS collected high statistics with negative and positive 190 GeV/c hadron beams on a proton (H_2) and nuclear (Ni, Pb) targets in 2008 and 2009. We give a selected overview of the newest results and discuss the status of various ongoing analyses.