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Hadron spectroscopy and exotics (experiment and theory)

Experiment: COMPASS

Contact Person: Dr. J. M. Friedrich

Institute: Technische Universität München

Email: Jan.Friedrich@Physik.TU-Muenchen.De

# Hadron program of the COMPASS experiment

J. M. Friedrich

## Abstract

The COMPASS experiment at the CERN SPS has started running in 2001. While measurements with a polarized muon beam will study the spin structure of the nucleon in deep inelastic scattering, a wide physics program is planned with hadron beams.

Tests of chiral perturbation theory will be performed by scattering pions and kaons in the Coulomb field of a high-Z nuclear target (Primakoff scattering) allowing to study polarisabilities and the chiral anomaly. Such and other soft processes can be used to study hadron spectroscopy. These investigations will be completed by double-diffractive production which will allow the search for exotics in the mass range up to 2.5 GeV using the high statistics achievable at COMPASS.

The specific detector setup of the COMPASS experiment as well as simulations for the hadronic reactions are presented.

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