

Hadron spectroscopy in diffractive and central production processes at COMPASS

COMPASS is a fixed target experiment using secondary high-energetic hadron beams provided by the CERN SPS. In 2008 and 2009, a large amount of data has been collected with a 190 GeV/c pion beam for the investigation of the hadron spectrum in diffractive and central production processes.

A big variety of observed final states, including $\pi\pi\pi$, $\pi\pi^0\pi^0$, $\pi\eta\eta$, $\pi K_s K_s$, $\pi K K$, $K\pi\pi$, and centrally produced 4π , is presented. The potential for systematic spectroscopic studies especially concerning the existence and nature of spin-exotic, hybrid and glueball states is revealed.

In addition, the first results from the data set collected with a proton beam in 2009 will be presented. These data indicate the potential of COMPASS in the field of baryon spectroscopy.

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