COMPASS Hadron Spectroscopy – Final states involving neutrals and kaons

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The COMPASS experiment at CERN is well designed for light hadron spectroscopy with emphasis on the detection of new states, in particular the search for exotic J^{PC} states and glueballs. We have collected data with 190 GeV/c charged hadron beams on a liquid hydrogen (proton) and nuclear targets in 2008/09. The spectrometer features good coverage by electromagnetic calorimetry and a RICH detector further provides π to K separation, allowing for studying final states involving neutral particles like π^0 or η as well as hidden strangeness, respectively. We discuss the status of ongoing analyses with the specific focus on diffractively produced $(\pi^0\pi^0\pi)^-$, $(\eta(\eta)\pi)^-$ as well as $(K\bar{K}\pi)^-$ final states.

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