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Hard Exclusive Meson Production at COMPASS

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We will present recent results from the COMPASS collaboration on hard exclusive muoproduction of mesons using 160 GeV polarized beams scattering off a liquid hydrogen target. The data cover a unique kinematic regime in the intermediate Bjorken- x domain and moderate Q^2 , providing new constraints on the nucleon's generalized parton structure. The measurements include cross-section of exclusive π_0 production, which is particularly sensitive to chiral-odd Generalised Parton Distributions (GPDs), and Spin Density Matrix Elements (SDMEs) of light vector mesons, which indicate a violation of s -channel helicity conservation. These observables offer critical input for global GPD fits and open the possibility to access transversity GPDs through a model-dependent interpretation of exclusive vector meson production amplitudes.

Author: Dr AUGSTEN, Kamil (Czech Technical University in Prague (CZ))

Presenter: Dr AUGSTEN, Kamil (Czech Technical University in Prague (CZ))

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