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# HIGH ENERGY PHYSICS COLLOQUIA

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## HADRONIC STRUCTURE FROM TRANSVERSE MOMENTUM-DEPENDENT SIDIS DATA

### Abstract

Since the onset of QCD, there has been a lot of progress in the study of hadronic structure. In recent years, many of these efforts have been focused on the extraction of transverse momentum dependent functions (TMDs), which encode 3-dimensional information of hadrons in momentum space. TMDs, within all the available factorization schemes, are non-perturbative functions that must be extracted from unintegrated ( $q_T$ -dependent) observables. A key process to study TMD physics is semi-inclusive deeply inelastic scattering (SIDIS), which contains information about both the distribution of constituents inside hadrons and the fragmentation process that gives origin to final state observed hadrons. While some preliminary analysis exist, extracting TMDs from the most recent SIDIS measurements has proven extremely challenging. In this talk I will discuss about the issues encountered when comparing theory and experiment. I will focus on the latest unpolarized SIDIS measurements by the COMPASS collaboration. I will present some progress towards an analysis of the entire range of transverse momentum  $q_T$  of this sets.

### Contatti:

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