

Abstract Submitted
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Drift Chamber Prototype for COMPASS-II Drell-Yan Measurements¹ MICHAEL DAUGHERITY, Abilene Christian University — The planned COMPASS-II experiment at CERN is poised to make the world's first measurement of the spin-dependent Drell-Yan (DY) process using a 190 GeV π^- beam on a transversely polarized proton target. This program will provide a critical test of transverse momentum dependent processes including the first test of the prediction that the Sivers effect changes signs between SIDIS and DY. To enable these measurements two state-of-the-art large-area drift chambers, collectively known as DC56, are being developed for use in the existing COMPASS spectrometer. The DC56 design, based on the existing COMPASS DC04 drift chamber by CEA-Saclay, is optimized for large acceptance, stable operation, high efficiency in a high flux environment, and a 200 micron position resolution. This presentation will focus on a prototype 72×16.5 in drift chamber with two planes of 16 sense wires at an 8mm pitch designed and built at the University of Illinois at Urbana-Champaign. The sense wires are alternated with field wires with an approximate 2kV potential difference. The wires are located between cathode planes made by depositing graphite on Mylar and Kapton. The performance of the prototype in cosmic ray tests and the status of the DC56 upgrades will be discussed.

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