

Abstract Submitted
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Ensuring Wire Alignment for the New COMPASS Drift Chamber¹ MEGAN CROMIS, Abilene Christian University, COMPASS DC5 TEAM — COMPASS is a fixed-target experiment at CERN investigating the internal structure of the proton. Polarized Drell-Yan measurements at COMPASS will explore how the quark orbital angular momentum contributes to the spin of the proton. To enable this measurement, several straw tube chambers need to be replaced due to long term wear. One of the replacement chambers, drift chamber DC5, is being built at Old Dominion University based on a prototype from UIUC and existing COMPASS drift chambers. DC5 consists of 4 wire planes with 513 wires (256 [20 μm] sense wires and 257 [100 μm] field wires alternating) and 4 wire planes at a 10 degree offset with 641 wires each. Each of these 4616 wires need to be aligned within either 100 μm (sense wire) or 200 μm (field wire) of the center of the solder pad to ensure the accuracy of the drift chamber. Problems that arose during stringing include initial alignment of the wire and efficient soldering techniques. Also, because the field wires charged at -1750 volts will be 4 mm from the sense wires, there should be no gaps or points in the solder to prevent arcing. This poster will discuss the alignment techniques, soldering methods, testing, and repair process for the wires.

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