

Abstract Submitted
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Inspection of anode and field wires for the COMPASS drift chamber, DC5, with Environmental Scanning Electron Microscope¹ SONIA CYUZUZO, Abilene Christian University — The COMPASS experiment at CERN uses a secondary pion beam from the Super Proton Synchrotron (SPS) at CERN to explore the spin structure of nucleons. A new drift chamber, DC5, will be integrated into the COMPASS spectrometer to replace an aging straw tube detector. DC5 will detect muon pairs from Drell-Yan scattering of a pion-beam off a transversely polarized proton target. This data will be used to determine the correlation between transverse proton spin and the intrinsic transverse momentum of up-quarks inside the proton, the Sivers effect. DC5 is a large area planar drift chamber with 8 layers of anode-frames made of G10 fiberglass-epoxy. The G10 frames support printed circuit boards for soldering $20\mu\text{m}$ diameter anode and $100\mu\text{m}$ diameter field wires. The anode planes are sandwiched by 13 graphite coated Mylar cathode planes. To ensure a well-functioning of DC5, the wires were carefully tested. An optical inspection and a spectral analysis was performed with an Environmental Scanning Electron Microscope (ESEM) to verify the composition and dimensions and the integrity of the gold plating on the surface of these wires. The spectra of the wires were studied at 10 and 30 keV.

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