

# 12th Beam Telescopes and Test Beams Workshop



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## Team Particular Perspective - Measuring The Particle Composition of the T10 Beamline

Thursday, April 18, 2024 2:00 PM (20 minutes)

This presentation describes the measurement of the beam composition in one of the experimental halls of CERN, the East Hall. This study was conducted in Autumn 2023 as part of being one of the three winning teams globally for the CERN Beamline For Schools. We have designed an experimental setup using different particle detectors to measure the rate, position, particles, and energy of the particle beam. We've collected data at 12 different momentum values, employing both positive and negative polarity beams. Our goal is to measure the number of protons, electrons, kaons, pions, muons, as well as trace amounts of antiparticles such as deuterons. We achieve this by analysing datasets obtained from the particle detectors and implementing data analysis, simulation, and theoretical measures to assist our experiment. Lastly, we present our results with statistical distributions of the composition of the beam.

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