

Contribution ID : **46** Type : **Poster**

Design, construction, and testing of a spark-chamber-type charged-particle trajectory detector.

Thursday, 22 October 2026 17:00 (2:00)

Abstract

This paper presents the design and construction of a spark chamber intended for introductory training purposes. The high-voltage system and triggering electronics are described. Its operating principle is based on gas ionization caused by charged particles. The released electrons undergo multiplication to generate visible sparks that trace the path of the original particle, allowing for an estimation of the count rate. The prototype is intended to serve as an educational tool for observing charged particles. Experimental testing is pending, and the results will be reported at a later date.

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Session Classification : Poster Session