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## **Low-Z anode wires testing for particle accelerator electrostatic septa**

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In a quest to identify low density materials for anode wires to be used in electrostatic septa for accelerator particle beam extraction, a basic test set-up was constructed at CERN. The set-up re-uses many components of the former LEAR electrostatic injection septum to limit the cost. As such, it inherits design features from the former septum, such as a displacement system for the anode and the 200 kV high voltage feedthrough. A short new cathode was designed that will allow applying high voltage while minimising field amplification. An existing wire support, serving as the anode, was used to fix anode wires similarly to the clamping system used in the operational septa devices.

This paper outlines the conceptual design of the test set-up as well as the detailed electrode design, before presenting the first experimental results of High Voltage tests with low-Z anode wires, such as carbon nanotube (CNT) and titanium and aluminium alloy wires.

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