



**HEP 2013
Stockholm
18-24 July 2013**



Contribution ID: 315

Type: **Poster Presentation**

Close Cathode Chamber, new variant of MWPCs

MWPCs served well for HEP experiments for decades, even with their basic drawbacks, like massive support frames and the need for high precision cathode flatness. Close Cathode Chambers are asymmetric wire chambers, where these constraints are eliminated with appropriate voltages on the alternate anode and field shaping wires. In this configuration the wires can be placed close to the segmented cathode plane, which simplifies the construction, and results in a narrow pad response function. Excellent gain uniformity, average material budget below 2% radiation length including frames for a chamber with 1m long wires, and reduced dead zones are demonstrated. Signal formation is shown to be consistent with classical MWPC-s using advanced simulation techniques.

The presentation will focus on the basic concept, details on innovative solutions to fully exploit the advantages, and the applicability as position sensitive detectors in high energy- and applied physics experiments.

[NIM A 648 (2011) 163],[NIM A 698 (2013) 11]

Primary authors: VARGA, Dezso (Eotvos Lorand University (HU)); KISS, Gabor; HAMAR, Gergo (MTA KFKI RMKI)

Track Classification: Detector R&D and data handling