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Implementation of the Artificial Retina Method for Offline Analysis of Test-Beam Data for the ATLAS New Small Wheel Micromegas

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Detector performance studies, which emphasise on spatial resolution and detector efficiency, require the generation of an external particle track to probe the detector under testing. The Artificial Retina method provides a set of weights for the cluster centroids, which reproduce the particle track, thus supporting the reconstruction of the particle track. A series of Monte-Carlo simulations have been conducted, which provide insight on the sub-processes and limitations of the Artificial Retina. Additionally, the method has been implemented on the analysis of test-beam data for the ATLAS New Small Wheel Micromegas detectors, which validates the method and its effectiveness.

Speed talk:

Normal speed talk selection

Author: KOUTSOSTATHIS, Athanasios (Institut für Beschleunigerphysik und Technologie, Karlsruher Institut für Technologie)

Co-authors: ALEXOPOULOS, Theodoros (National Technical University of Athens (NTUA)); KOPSALIS, Ioannis (National Technical University of Athens (NTUA)); MALTEZOS, Stavros (National Technical University of Athens (NTUA))

Presenter: KOUTSOSTATHIS, Athanasios (Institut für Beschleunigerphysik und Technologie, Karlsruher Institut für Technologie)

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