Research Techniques Seminar

Micro-Pattern Gas Detector Technologies for Physics Projects at the Energy, Intensity and Cosmic Frontiers

Maxim Titov
CEA Saclay, France

Tuesday, April 26, 2016

10:30 am

Curia II (WH2SW)

Recent industrial developments in photo-lithography, microelectronics and printed circuits technique have opened the road for the production of micro-structured gaseous amplification devices: Microstrip Gas Chamber (MSGC), Gas Electron Multiplier (GEM) and Micro-mesh gaseous structure (Micromegas), among many others. By using a pitch size of a few hundred micrometers, MPGD systems now offer operational stability, protection against discharges, radiation hardness, high-rate capability (> 1MHz/mm^2), excellent spatial resolution (~30 □m), and a time resolution down to a few-hundred pico-second range. During the past five years, there have been major developments of Micromegas at CERN where we have found numerous HEP applications as well as other fields of fundamental and applied research. The interest in the novel MPGD concepts has led to the establishment of the RD51 collaboration at CERN in 2008. This talk will highlight recent MPGD technology advances, review RD51 collaboration activities, and address numerous MPGD applications at the Energy, Intensity and Cosmic Frontiers.

http://www-ppd.fnal.gov/eppoffice-w/Research_Techniques_Seminar/