

Developments and Applications of Micro-pattern Gaseous Detectors (MPGD): a concise review

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Gaseous detectors are fundamental components at the frontier of present and planned physics experiments. Over the past decade Micro-Pattern Gas Detector (MPGD) technologies have become increasingly important; the high radiation resistance, large sensitive area, high rate capability and excellent spatial and time resolution make them an invaluable tool to confront future detector challenges at the next generation of colliders. Originally developed for the high energy physics, MPGD applications have expanded to nuclear physics, astrophysics, neutrino physics, material science, neutron detection and medical imaging. This talk provides an overview of the state-of-the-art of the MPGD technologies: it presents and discusses operation mechanisms, properties and main applications of the most popular MPGD designs, with particular focus on charge-particle tracking applications.

Primary author: Dr CORTESI, Marco (National Superconducting Cyclotron Laboratory (Michigan State University))

Presenter: Dr CORTESI, Marco (National Superconducting Cyclotron Laboratory (Michigan State University))

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