

Workshop on Resistive Coatings for Gaseous Detectors

Monday, 13 May 2019 - Tuesday, 14 May 2019

INFN Bari

Scientific Programme

Recently many micro-pattern gaseous detectors (MPGDs) have been proposed and developed that use Diamond Like Carbon (DLC) as a thin resistive film to create (some) of the detector electrodes. Crucial for the development of these detectors is the deposition of **high quality, robust, thin resistive** films with **low internal stress** and **good adhesion** to the base substrate and with **highly uniform surface resistivity stable in time**. Furthermore MPGDs have demonstrated extreme radiation hard capabilities, the introduction of a new material need to be thoroughly validated in a radiation environment.

This requires good understanding of what is happening in the material during deposition and during the various detector production stages, often characterised by high temperature gradients, high pressure, the use of highly active chemicals and mechanical techniques such as sandblasting. Furthermore also processes in the thin films during during detector operation, with gasses such as Ar, CO₂, CF₄ and Freons as well as the robustness of DLC in environments with free F• radicals and HF acid need to be understood.

The Workshop on *Resistive Coatings for Gaseous Detectors* will cover the following topics:

- Overview of thin resistive layers
- Different deposition techniques
- Characterization of thin layers
- Production of MPGDs with resistive coatings
- Physics simulation & signal propagation
- Application in Radiation Detectors & beyond
- Industrial Production & Technology Transfer