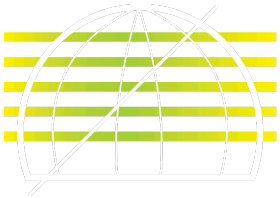

Contribution ID: **74** Type: **Oral**

The Surface Resistive Plate Counter

Tuesday, 27 September 2022 16:25 (25 minutes)

The surface Resistive Plate Counter (sRPC) is a new RPC based on surface resistive electrodes realized with Diamond-Like-Carbon sputtered on Apical® foil. Exploiting high granularity current evacuation schemes developed for resistive MPGD and using electrodes with surface resistivity from 1 GΩ/□ down to 100MΩ/□, sRPCs standing particle fluxes up to 1 - 100 kHz/cm2 should be easily developed.
At the moment prototypes with electrode resistivity > 1GΩ/□ have been tested, exhibiting high stability and good performance in terms of efficiency (~ 95%) and time resolution (~ 1ns). A high-rate layout with ρ ~ 7GΩ/□ and 1 cm current evacuation pitch showed a rate capability with m.i.p. of ~ 3kHz/cm2.
The scalability of the technology allows the construction of detectors for large area applications at future high luminosity colliders.

Primary authors: MORELLO, Gianfranco (INFN e Laboratori Nazionali di Frascati (IT)); BENCIVENNI, Giovanni (INFN e Laboratori Nazionali di Frascati (IT)); FELICI, Giulietto (INFN e Laboratori Nazionali di Frascati (IT)); Mr PAPALINO, Giuseppe (Laboratori Nazionali di Frascati); GIOVANNETTI, Matteo (INFN e Laboratori Nazionali di Frascati (IT)); GATTA, Maurizio (INFN e Laboratori Nazionali di Frascati (IT)); DE OLIVEIRA, Rui (CERN); POLI LENER, Marco (INFN e Laboratori Nazionali di Frascati (IT))

Presenter: BENCIVENNI, Giovanni (INFN e Laboratori Nazionali di Frascati (IT))

Session Classification: New detector ideas