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The micro-RWELL: from the R&D to the technology transfer towards Industry

The use of resistive layers, primarily introduced in MPGD to improve spatial resolution via charge dispersion, has been one of the major trends in the recent years thanks to their spark amplitude quenching feature.

Among resistive-MPGDs the micro-RWELL, exhibiting excellent tracking performance ($<100 \mu\text{m}$) and good time resolution (5 ns) at very high particle rate (up to 20 MHz/cm²), is a reliable, easy to build and cost effective technology. The detector, proposed for the upgrade of the muon system of the LHCb experiment and the muon tracker at future high luminosity large leptonic colliders, can be exploited for applications beyond HEP.

The challenge for the next decade is the transfer of the technology to PCB industry: a big effort in this direction is performed in the framework of AIDAInnova. Key-point of the industrialization of the technology is the acquisition of a DLC magnetron sputtering machine co-funded by CERN and INFN that will start the operation in the 2023.

Taking into account the involvement of private industries, the technology can positively affect all those fields of applications (from HEP to industrial, medical and homeland security applications) where large area tracking systems with excellent space resolution, together with rad-hard characteristics are required.

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