



Contribution ID: 62

Type: Oral

## Use of pads-based readout RPC for home security applications

*Wednesday 28 September 2022 15:40 (25 minutes)*

RPC is a gaseous detector that associates high efficiency, fast timing and good spatial resolution to a cost effectiveness. Large RPC made either of HPL or glass are easily built and successfully operated in several HEP experiments. We propose the use of RPC to perform 3D scans of containers with the help of cosmic rays. In order to have an affordable large scanning system to cover large containers, a

To instrument very large detection areas similar to those needed in container inspection a new and genuine readout system that has the granularity and thus the spatial resolution provided with tiny pads read out individually but with a number of electronics channels of long strips readout system.

A cosmic ray bench built with 2 stacks each made of 4 RPC of 60 cm x 70 cm each separated by 20 cm, was used to detect successfully dense objects placed between the two stacks using the scattering technique.

Hidden material in concrete wrapping structure were also scanned and clearly identified. Work to extend the size of the instrumented area is on going as well as the optimization of the time exposure.

**Author:** LAKTINEH, Imad (Centre National de la Recherche Scientifique (FR))

**Presenter:** LAKTINEH, Imad (Centre National de la Recherche Scientifique (FR))

**Session Classification:** New detector applications