

Knowledge & Technology Transfer

COLLABORATION OPPORTUNITY / SERVICES

MICROMEGAS (MICRO Mesh Gaseous Structure)

References

LAPP: <http://lapp.in2p3.fr/spip.php?rubrique179>

Description

MICROMEGAS detector design, operation and characterisation.

Technology and/or Application domain(s)

Skills covered at LAPP concerns large area bulk-MICROMEGAS detector design, operating condition settings depending on environmental parameters and on which particle to detect, detector simulation, and all instrumentation associated with such detector.

LAPP detectors are optimized for imaging calorimetry at a future linear collider

Keywords

MPGD, large area MICROMEGAS, Gaseous detectors, embedded electronics, Instrumentation, Calorimetry.

Offering

- Expertise and know-how in bulk-MICROMEGAS design and specification.
- Collaboration or partnership for developing bulk-MICROMEGAS related with LAPP research programs.

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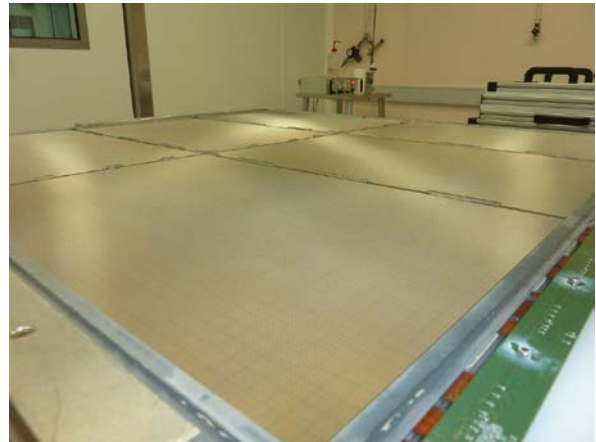
<http://lapp.in2p3.fr/>



Contact IN2P3 – Technology Transfer Office

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<http://valorisation.in2p3.fr/>



One square meter bulk-micromegas chamber with embedded electronic

State of development / Innovative aspects and main advantages

LAPP is developing MICROMEGAS detectors since 2007 for the needs of future linear colliders. More particularly, LAPP is strongly involved in building a hadronic calorimeter with integrated electronic read-out based on MICROMEGAS.

LAPP is the first laboratory which has integrated read-out electronics directly on the bulk MICROMEGAS, and to juxtapose 6 of such bulk to create one square meter detector with a thickness of about 10 mm and with 1 cm² pad readout.

These detectors layers have been intensively and extensively tested in beam at CERN, their performances show that they are very good candidate to equip an hadronic calorimeter at ILC.

Fields of application / Potential commercial applications

- Homeland security
- Medical imaging
- Non destructive examination
- Applied science
- X-Ray diffraction

Other applicants

The LAPP is involved in the RD51 collaboration, which interest aims at facilitating the development of gas-avalanche detector technologies and associated readout electronic systems. The LAPP is also involved in the CALICE collaboration, which gathers calorimetry for future linear collider activities.