

From: Maximilien Chefdeville chefdevi@LAPP.IN2P3.FR
Subject: TIPP 2014 - Micromegas abstract
Date: 28 Feb 2014 17:18
To: Frank Simon fsimon@mpp.mpg.de

Dear Frank,

I almost missed the deadline for abstract submission for TIPP.
Please find below the just-submitted Micromegas abstract.

Kind regards

Max

----- Forwarded Message -----

From: noreply-indico-team@cern.ch
To: chefdevi@lapp.in2p3.fr
Subject: [Indico] Abstract submission confirmation (Tipp 2014 - Third International Conference on Technology and Instrumentation in Particle Physics)
Date: Fri, 28 Feb 2014 17:15:01 +0100

Dear Maximilien Chefdeville,

The submission of your abstract has been successfully processed.

Abstract submitted: <https://indico.cern.ch/event/192695/call-for-abstracts/my-abstracts>.

Status of your abstract: <https://indico.cern.ch/event/192695/call-for-abstracts/359/>.

See below a detailed summary of your submitted abstract:

Conference: Tipp 2014 - Third International Conference on Technology and Instrumentation in Particle Physics

Submitted by: CHEFDEVILLE, Maximilien

Submitted on: 28 February 2014 16:15

Title: Micromegas for sampling calorimetry

Abstract content

Micromegas is an attractive option for a gaseous sampling calorimeter. It delivers proportional and fast signals, achieves high efficiency to minimum ionising particles with a compact design and shows well-uniform performance over meter-square areas. The current R&D focuses on large-size spark-protected Micromegas with integrated front-end electronics. It targets an application at future linear colliders (LC) and possible upgrades of LHC experiments for the running at high luminosity. Prototyping work and characterisation results will be reported with a special emphasis on the impact of the resistive layer on the calorimeter signals.

Summary

A few technologically-advanced prototypes of 1x1 m² were constructed. Optimised for Particle-Flow hadron calorimetry at a LC, they are segmented into pads of 1x1 cm², each read out by simple threshold electronics. Their standalone performance were studied in great details in testbeams. In addition, expected performance of a Micromegas calorimeter were deduced from the measured three-dimensional shape of high-energy pion showers inside the CALICE semi-digital hadron calorimeter (SDHCAL).

Absorption in the gas of highly ionising particles produced in hadron showers occasionally triggers a discharge. This can be a serious show-stopper for high-rate applications such as forward calorimetry at a high-luminosity LHC experiment. Discharge protections based on resistive films were successfully implemented on small-size prototypes. Several resistive configurations were actually studied to minimise the time necessary for charge evacuation and the resulting efficiency and linearity losses.

Primary Authors:

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Co-authors:

Abstract presentation:

Abstract presenters.
CHEFDEVILLE, Maximilien

Track classification:
Sensors: 1a) Calorimetry

Presentation type: --not specified--

Comments:

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Indico project <<http://indico-software.org/>>