

Abstract Submitted
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Prototype of a Cluster-Counting Drift Chamber JEAN-FRANÇOIS CARON, The University of British Columbia, SUPERB CANADA COLLABORATION — In August 2012 a prototype drift chamber was tested at TRIUMF using a ~ 200 MeV/c beam of electrons, muons, and pions. The drift chamber is instrumented to allow the use of a cluster-counting technique, whereby the full waveform on the sense wire is recorded. The signal from each primary ionization can be resolved with suitable algorithms, allowing for better particle identification than traditional charge measurements which merely integrate the sense wire signal. Instrumenting a full-scale drift chamber for cluster counting would be expensive, and this study quantifies the particle identification aspect of the potential improvements obtained from such an expense.

Jean-François Caron
The University of British Columbia

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