



ID de Contribution: 79

Type: **Oral presentation**

Measuring the masses of the charged hadrons using a RICH as a precision velocity spectrometer

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The Selex experiment measured several billion charged hadron tracks with a high precision magnetic momentum spectrometer and high precision RICH velocity spectrometer. We have analyzed these data to simultaneously measure the masses of all the long lived charged hadrons and anti-hadrons from the pion to the Omega- using the same detectors and techniques. The statistical precision achievable with this data sample is effectively unlimited.

We have used these measurements to develop and understand the systematic effects of a RICH as a precision velocity spectrometer with the goal of measuring all 16 masses with precision ranging from 100 KeV for the lightest to 1000 KeV for the heaviest. This requires controlling the radius measurement of RICH rings to the $dR/R \sim 10^{-4}$ level.

Progress in the mass measurements and the required RICH analysis techniques developed will be discussed.

Please indicate "poster" or "plenary" session. Final decision will be made by session coordinators.

plenary

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Classification de Session: Pattern recognition and data analysis

Classification de thématique: Pattern recognition and data analysis