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Type: **Oral presentation**

The experience of building and operating COMPASS RICH-1

lundi 3 mai 2010 12:00 (30 minutes)

COMPASS RICH-1 is a large gaseous Imaging Cherenkov Detector providing high quality hadron identification in the range from 3 to 60 GeV/c, in the wide acceptance spectrometer of the COMPASS Experiment at CERN SPS.

It has been successfully operated since 2002 and its performances have increased in time thanks to progressive optimization and mostly to a major upgrade which was implemented in 2006.

The main characteristics of its components are described in order to discuss the most critical problems which have been faced, of foreseen and unforeseen nature, and the solutions which have been found.

The long term mastering of the challenges from radiator gas purity requirements, mirror alignment, photon detector instabilities, removal of read-out heat, etc. are critically reviewed; delicate maintenance operations and some accidents are described too.

The need to adapt COMPASS RICH-1 and its read-out for operating at higher and higher rates, to guarantee increasing efficiency and stability, and also to reduce the work load on the RICH experts during long runs is summarized; a brief overview of the upgrade results and of the most recent implementations is provided.

Some highlights from COMPASS particle identification analysis and the overall RICH-1 performances are presented.

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

plenary

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Classification de Session: Cherenkov Imaging in particle and in nuclear physics experiments

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