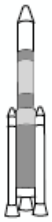

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Range extension for FASER electromagnetic calorimeter

Friday, 24 May 2024 10:00 (20 minutes)

The FASER calorimeter system has been upgraded to improve the dynamic range. The upgrade is based on the original calorimeter with only changes to the Photomultiplier Type ,PMT, system. The basic concept is to introduce a light splitter between the calorimeter and the PMT: A few percent of the light is guided to one PMT (high range) while the majority of the light is guided to another PMT (low range). The splitting is selected such that the range of the PMTs has a significant overlap for cross calibration. The low range PMT is then calibrated with MIPs, while the high range PMT is cross calibrated to the low range PMT. This allows for significant dynamic range extension with a static system.

Primary author: JAKOBSEN, Sune (CERN)

Co-authors: PETERSEN, Brian (CERN); VAN STENIS, Miranda (CERN); SCHNEIDER, Thomas (CERN); RABETSIMIALONA, Yanis Samuel

Presenter: JAKOBSEN, Sune (CERN)

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