

MPPCs in highly granular calorimetry - from ILC to LHC and beyond

Tuesday, 27 November 2018 14:35 (20 minutes)

Following a first successful demonstration of the use of MPPCs in scintillator-based calorimeters, the CALICE collaboration has developed over the last years a concept scalable to large collider detectors with millions of channels, thanks to embedded read-out electronics layers including surface-mounted MPPCs. A prototype with 22000 channels has been constructed and was tested in hadrons beams this summer. Based on a very similar integration concept, the CMS collaboration plans to use this technology for their upgrade of their endcap calorimeter for the high-luminosity phase of the LHC, which brings additional challenges in terms of radiation hardness, speed and thermal coupling. The talk will present the CALICE prototype layout and some first impressions from test beam data, and discuss the extension of application range to irradiated hadron collider environments.

Primary author: Dr SEFKOW, Felix (DESY, Hamburg, Germany)

Presenter: Dr SEFKOW, Felix (DESY, Hamburg, Germany)

Session Classification: Tuesday afternoon