



Contribution ID: 450

Type: **Oral Presentation**

The D0 Luminosity Monitor Operations and Performance

Monday 13 June 2011 15:15 (25 minutes)

The D0 Luminosity Monitor (LM) plays a crucial role in D0 physics analyses by providing the normalization for many cross section measurements. The detector consists of two sets of 24 scintillator wedges read out with photomultiplier tubes. The detector is located in the forward regions surrounding the beam pipe, covering a pseudorapidity range of $2.7 < |\eta| < 4.4$. The LM is sensitive to a large fraction of the total inelastic cross section and measures the luminosity by counting the number of empty proton-antiproton bunch crossings, using Poisson statistics to extract the instantaneous luminosity. The techniques used to convert the measurements made by the LM into the assessed luminosity will be discussed, as well as the performance and operational details of the detector.

Primary author: Ms PREWITT, Michelle (Rice University)

Co-author: D0, Luminosity Group (D0)

Presenter: Ms PREWITT, Michelle (Rice University)

Session Classification: Machine Det. Interface and Beam Instr.

Track Classification: Machine Detector Interface and Beam Instrumentation