

Abstract Submitted  
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**Luminosity Monitors for the OLYMPUS Experiment** J. DIEFENBACH, Hampton University, FOR THE OLYMPUS COLLABORATION — The OLYMPUS experiment at the storage ring DORIS at DESY (Hamburg, Germany) measures the real part of the two-photon exchange amplitude in elastic electron proton scattering. The real part is directly accessible through a measurement of the ratio of the electron-proton to the positron-proton elastic cross-section. This implies switching the beam species a number of times per day between electrons and positrons. Precise monitoring of the luminosity is required to connect the data sets with each other in the data analysis. The talk will present the three luminosity monitors of OLYMPUS, two tracking telescopes (GEMs and MWPCs) using elastic ep scattering and one totally independent system detecting symmetric Møller and Bhabha scattering events. The current status and achievements in our first production run from February 2012 will be discussed, together with an outlook on further developments.

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