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Luminosity monitoring at OLYMPUS with forward-angle elastic scattering[1] OZGUR ATES, Hampton University, OLYMPUS COLLABORATION — The OLYMPUS experiment at DESY has taken data during two periods in 2012 to measure the ratio of positron-proton and electron-proton elastic scattering cross sections. The goal of OLYMPUS is to quantify the effect of two-photon exchange, which is widely considered to be responsible for the discrepancy between measurements of the proton electric to magnetic form factor ratio with the Rosenbluth separation and polarization transfer methods. In order to control the systematic uncertainties to the sub-percent level, the luminosities have been monitored redundantly and with high precision by measuring the rates for symmetric Moller and Bhabha scattering, and by measuring the ep-elastic count rates at forward angles and low momentum transfer with tracking telescopes based on GEM (Gas Electron Multiplier) and MWPC (Multi Wire Proportional Chamber) technology. Based on the data analysis of GEM and MWPC luminosity monitors, detector performances and preliminary results on the positron/electron luminosity ratio will be presented.

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