Abstract Submitted
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**Beam Dynamics from Scintillating Fiber Detectors in the Muon g-2 Experiment**[1] ALEC SBLENDORIO, Regis University, ANTOINE CHAPELAIN, Cornell University, FREDERICK GRAY, Regis University, MUON G-2 COLLABORATION — The Muon g-2 experiment at Fermilab will determine the muon's anomalous magnetic moment with a projected precision four times higher than previous measurements. Coherent Betatron Oscillations (CBO) contribute a systematic uncertainty to the measurement of the muon spin precession frequency in the storage ring. The scintillating fiber beam monitoring system measures the beam profile as a function of time and observes the betatron and cyclotron oscillations that cause the CBO. The betatron and cyclotron oscillation frequencies are momentum-dependent, leading to damping of the CBO. This poster will present an analysis of these beam dynamics effects measured by Fourier transforms of the data from the fiber beam monitoring system in the commissioning run of June 2017. Understanding and characterizing these effects will allow a reduction of the systematic uncertainty from the CBO.

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