NuMI Muon Monitors November 2017-December 2018

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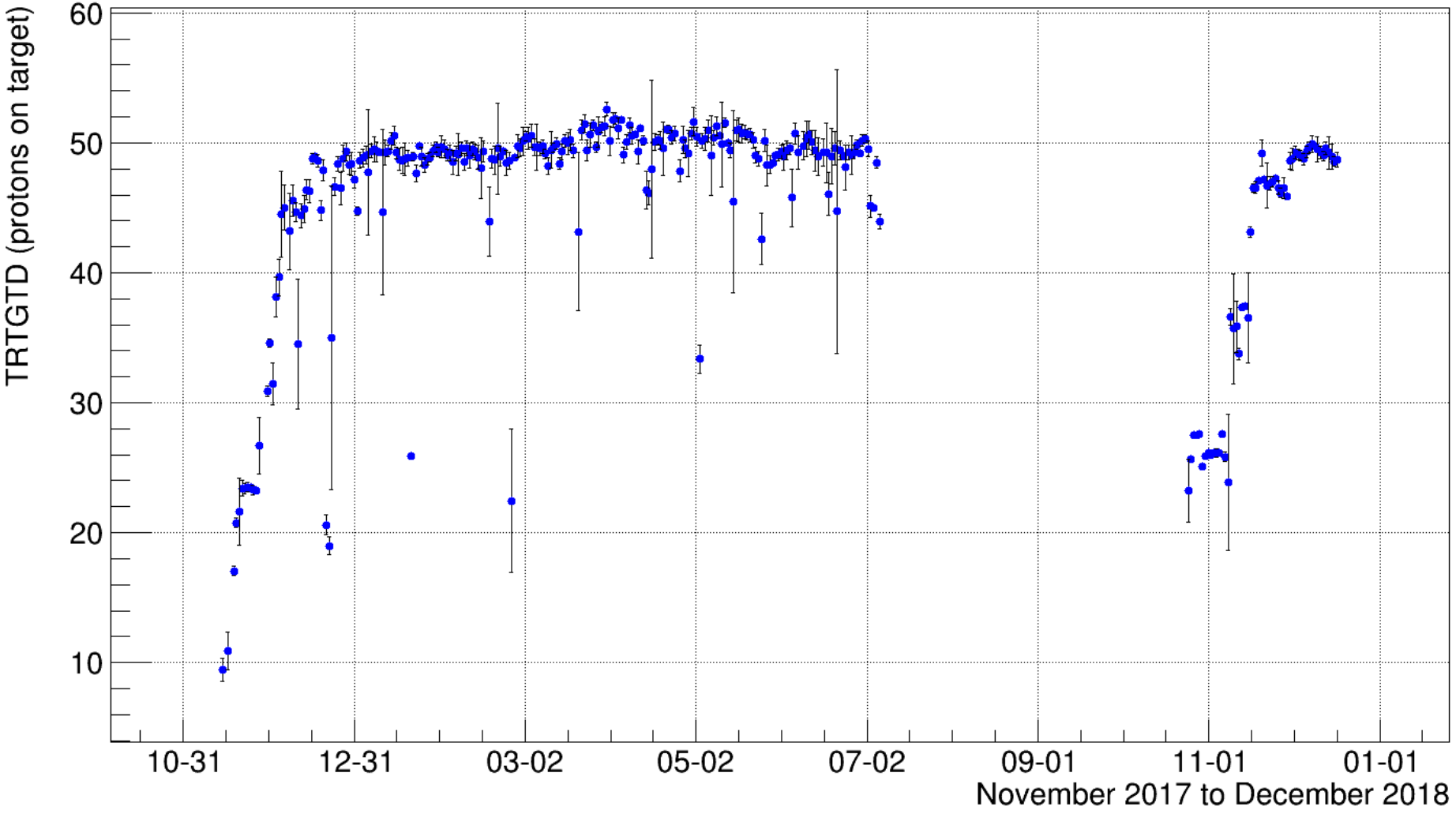
December 18, 2018

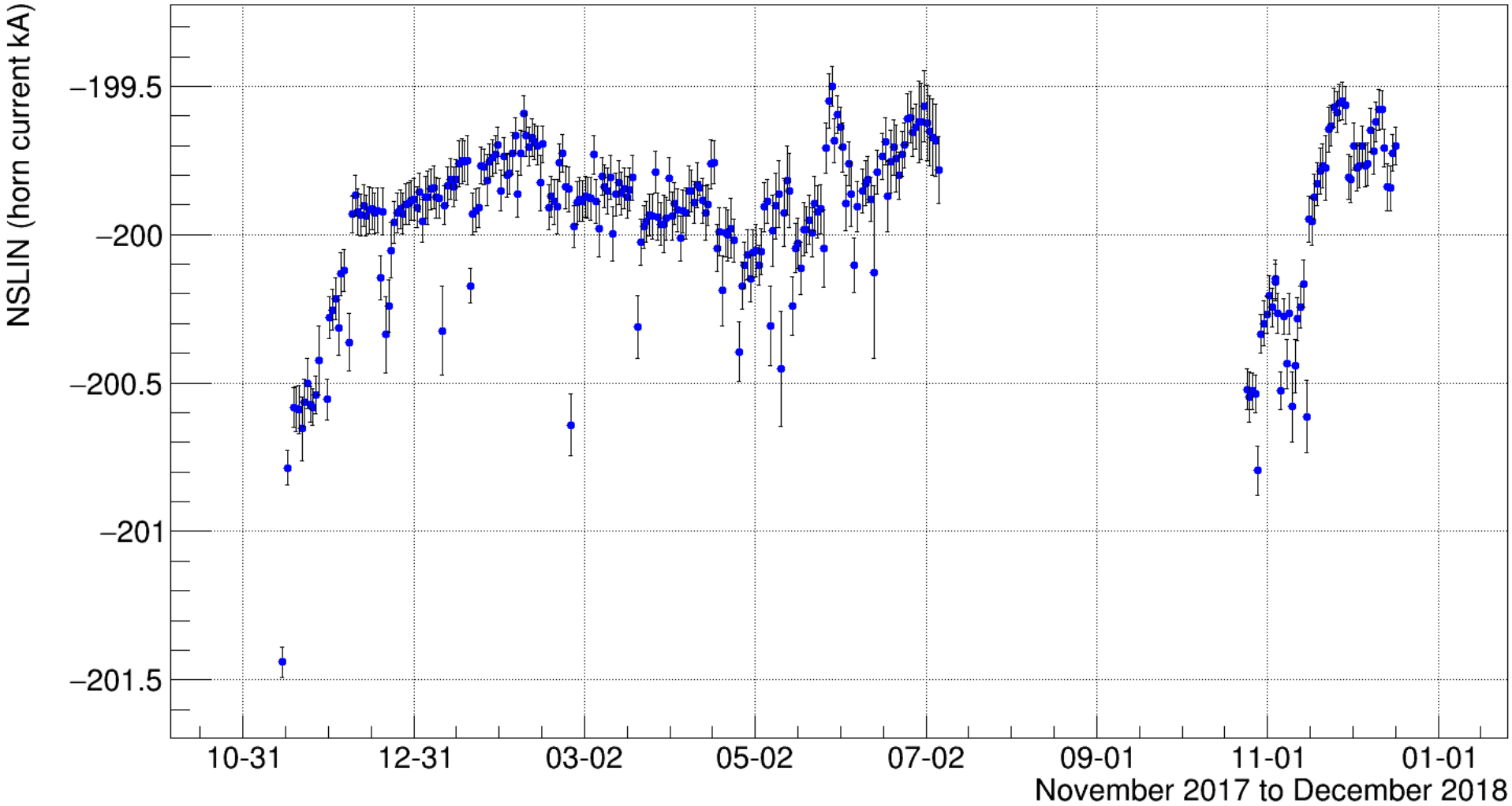
Introduction

- Data collected from NuMI muon monitors from November 2017 to December 17, 2018
- Each data point is the mean of 4 hours (12am-4am) each day
- Values plotted:
  - POT
  - Horn current
  - Spot size
  - Horizontal and vertical beam position at the muon monitors
  - Offline corrected muon monitor signal
    - Includes corrections for gas pressure and a nonlinear correction for the response of charge collected in the ionization chambers with increasing beam current
  - Muon monitor gas calibration chambers signal

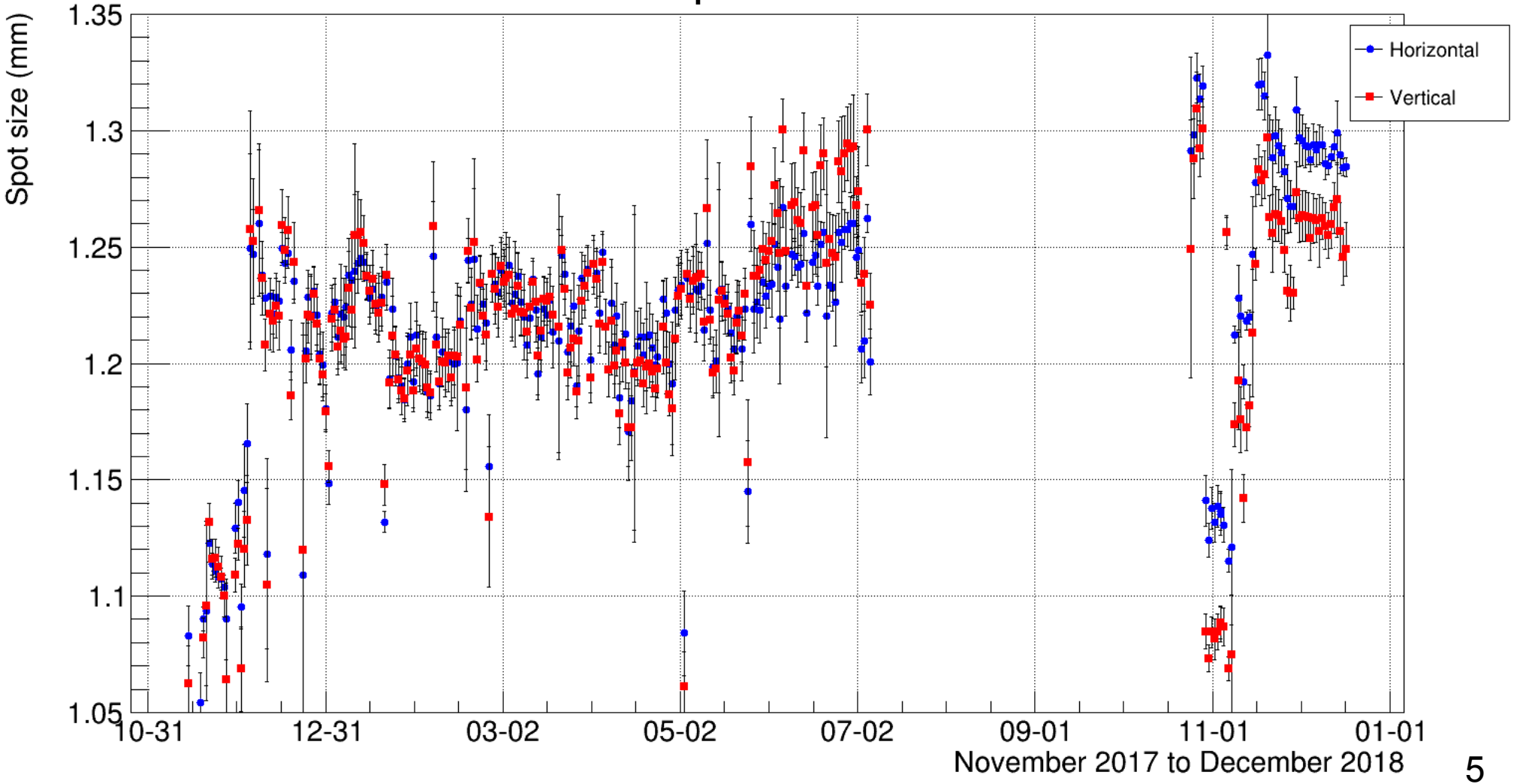
POT (E12)


TRTGTD (protons on target)
60
50
40
30
20
10
10-31
12-31
03-02
05-02
07-02
09-01
11-01
01-01
November 2017 to December 2018

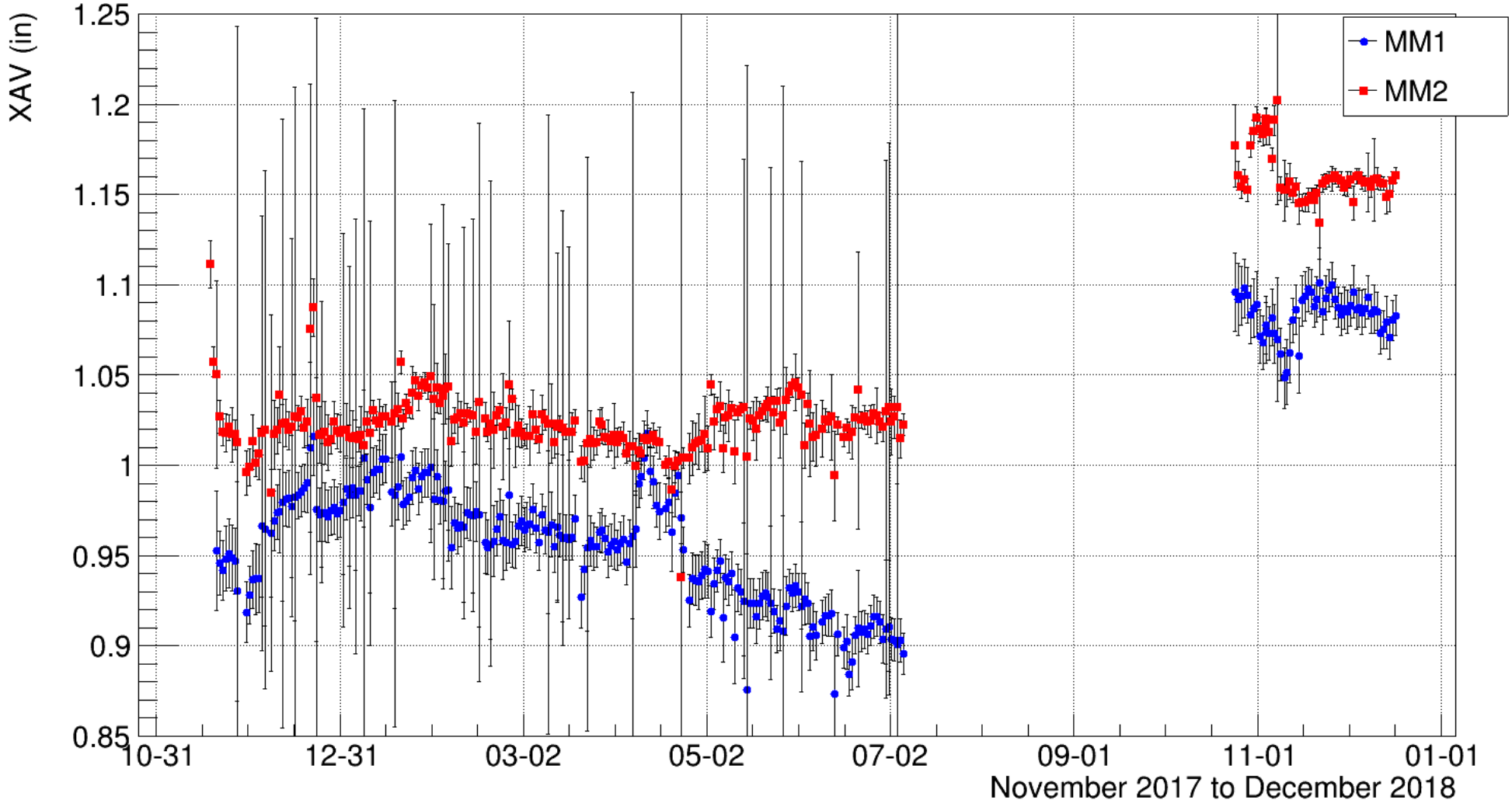
Horn Current



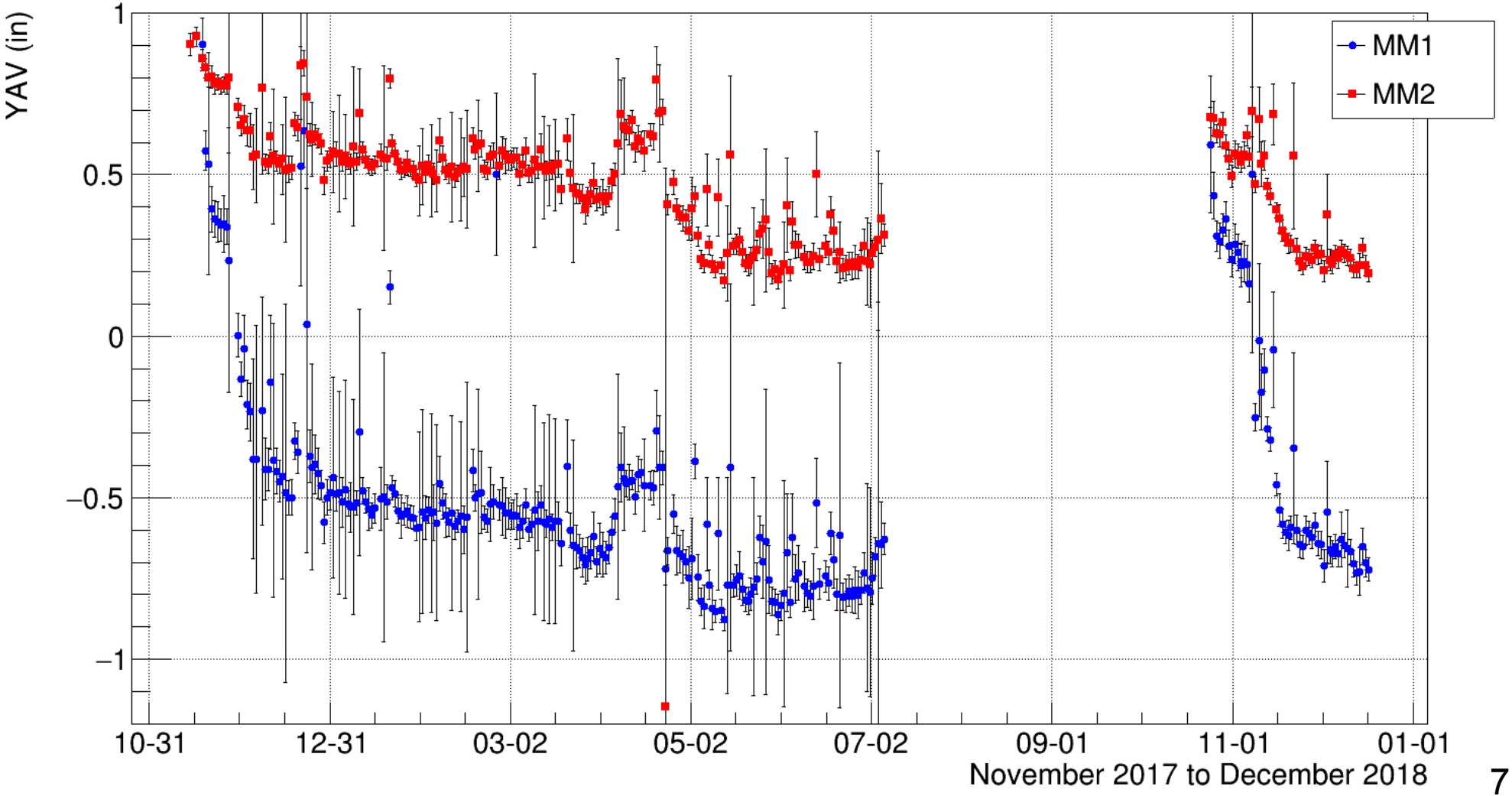
Spot Size


Spot size (mm)
1.35
1.3
1.25
1.2
1.15
1.1
1.05
10-31
12-31
03-02
05-02
07-02
09-01
11-01
01-01
November 2017 to December 2018
Horizontal
Vertical

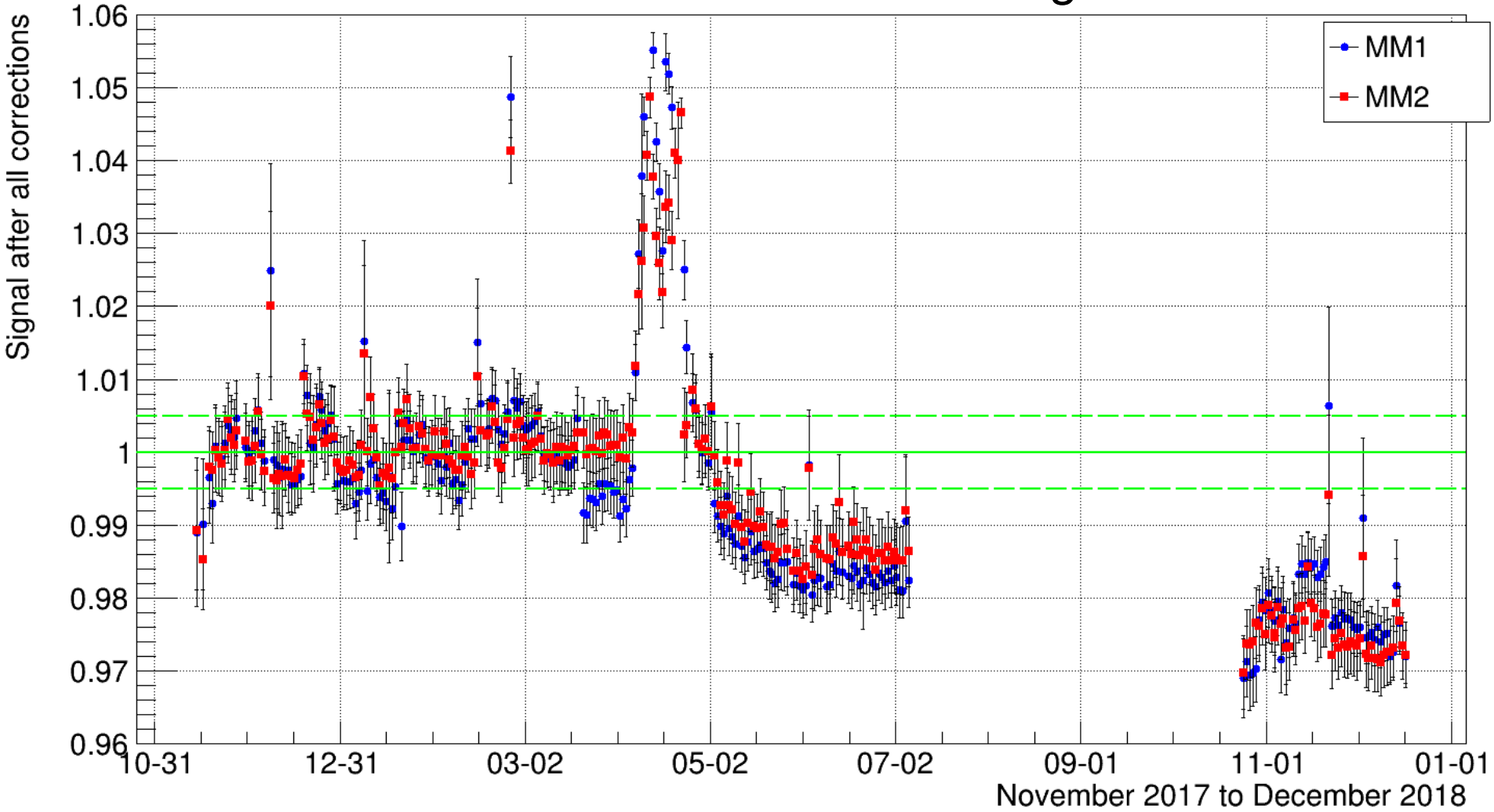
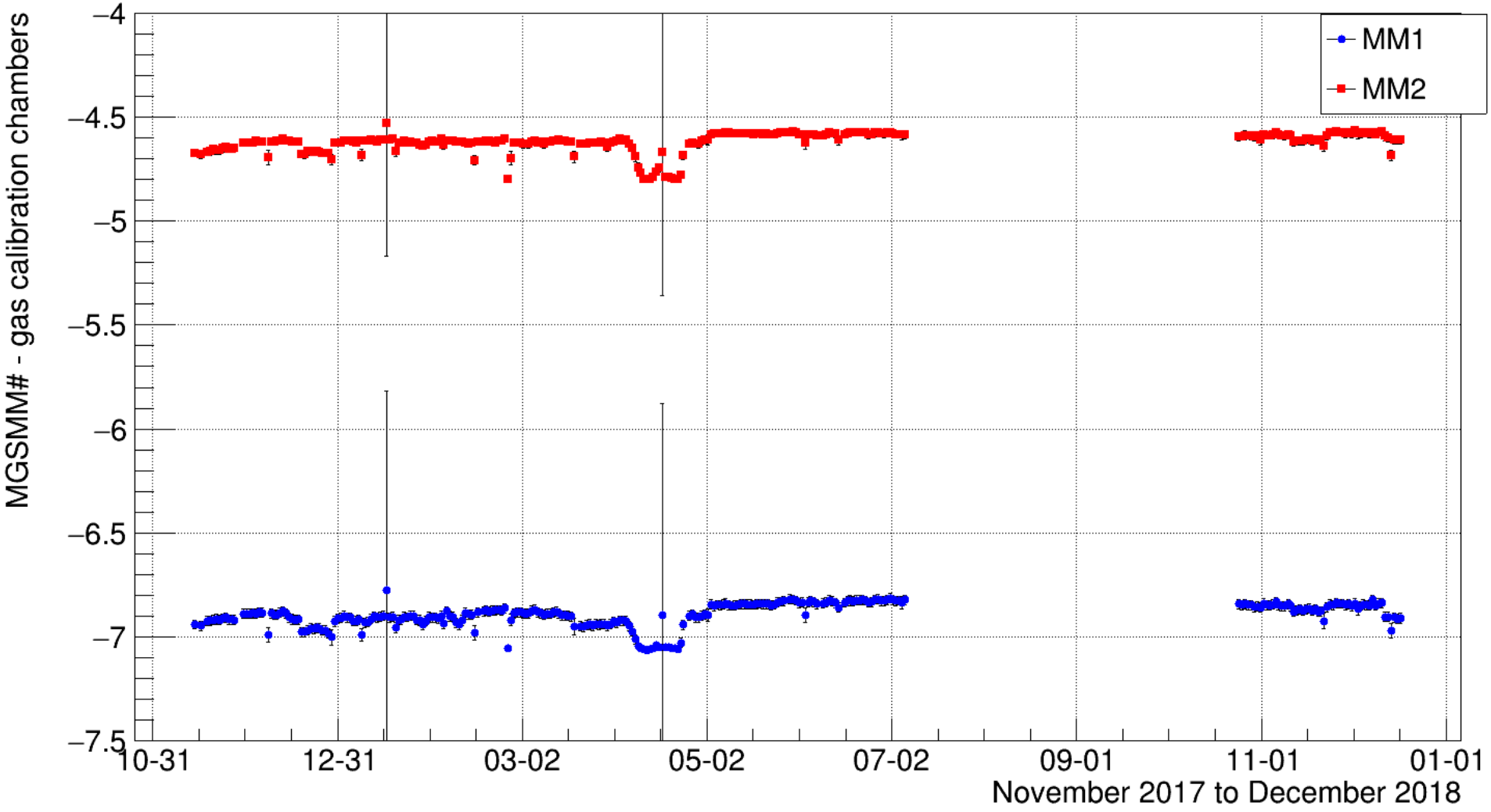
Horizontal Position



Vertical Position



Corrected Muon Monitor Signal



Muon Monitor Gas Calibration Chambers