

Weekly Report

Content: Environmental Data (Beam Test Analysis)



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During the beam test,

Temperature, Pressure, Dewpoint(H₂O) and O₂ were monitored.

Environmental Data: One of important things in data analysis

Recorded in text file



- Example of Temperature text file:

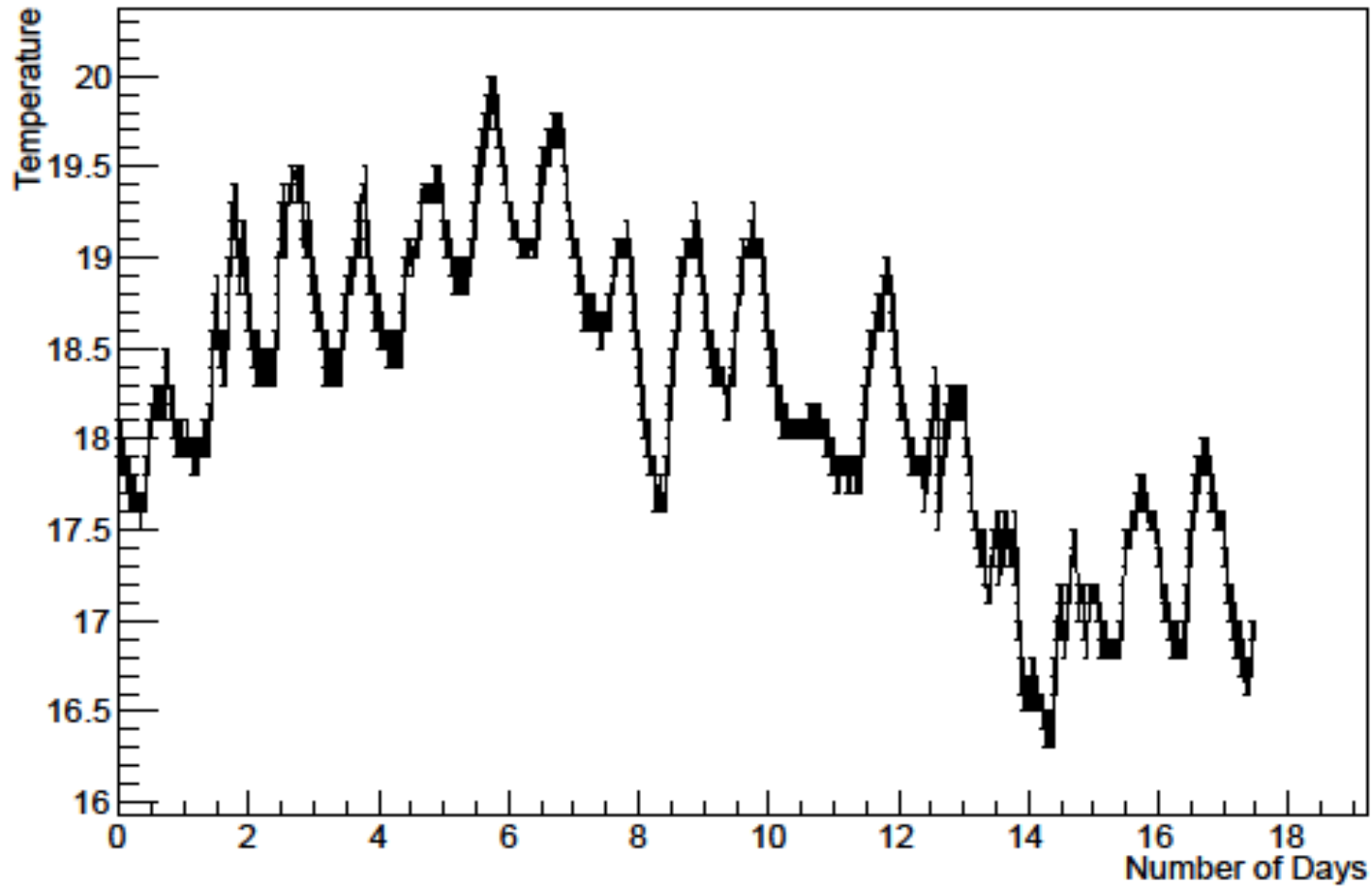
```
#A_TS_FLOAT Length=19 Time=1478945082000 12. Nov. 2016 11:04:42.000 From=ILC.EXP/  
LPTPC.TEMPERATURE/TEMPERATURE1/TEMPC Block=1  
"12. Nov. 2016 11:00:28.442 0" 16.9  
"12. Nov. 2016 11:00:33.661 0" 17.0  
"12. Nov. 2016 11:00:36.271 0" 16.9  
"12. Nov. 2016 11:00:46.608 0" 17.0  
"12. Nov. 2016 11:01:22.845 0" 16.9  
"12. Nov. 2016 11:01:28.062 0" 17.0  
"12. Nov. 2016 11:01:30.672 0" 16.9  
"12. Nov. 2016 11:01:38.399 0" 17.0  
"12. Nov. 2016 11:02:19.754 0" 16.9  
"12. Nov. 2016 11:02:30.192 0" 17.0  
"12. Nov. 2016 11:03:16.764 0" 16.9  
"12. Nov. 2016 11:03:34.830 0" 17.0  
"12. Nov. 2016 11:04:11.062 0" 16.9  
"12. Nov. 2016 11:04:13.673 0" 17.0  
"12. Nov. 2016 11:04:16.283 0" 16.9  
"12. Nov. 2016 11:04:21.501 0" 17.0  
"12. Nov. 2016 11:04:24.010 0" 16.9  
"12. Nov. 2016 11:04:26.619 0" 17.0  
../TxtData/ILC.EXP_LPTPC.TEMPERATURE_TEMPERATURE1_TEMPC.20161026-20161112.txt:
```

Using the program



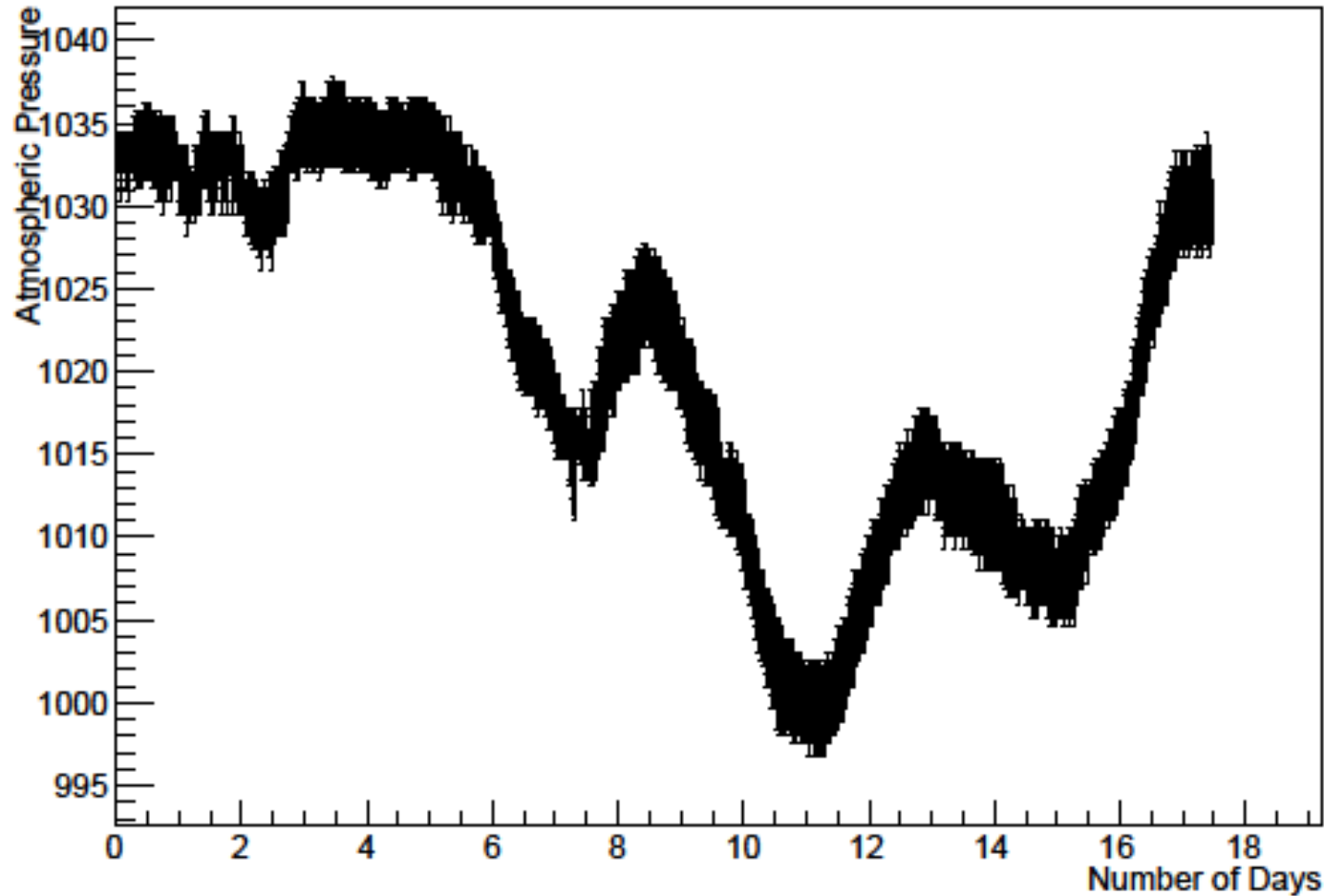
Make
some graphs

Temperature [$^{\circ}\text{C}$] (in LPTPC?)



- This recorded from 26.Oct. to 12. Nov.(2016) .
- There was a change of about 3.5°C as a whole.
- The part that looks like mountains and valleys shows one day (noon and night).

Atmospheric Pressure [hPa]



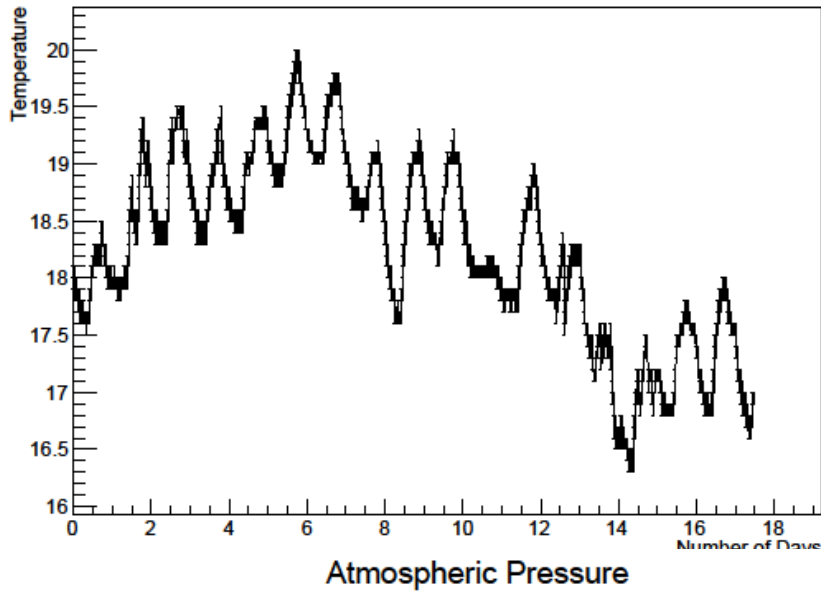
- This recorded from 26.Oct. to 12. Nov.(2016) .
- There was a change of about 40hPa as a whole.

Text File Name:

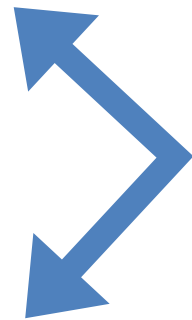
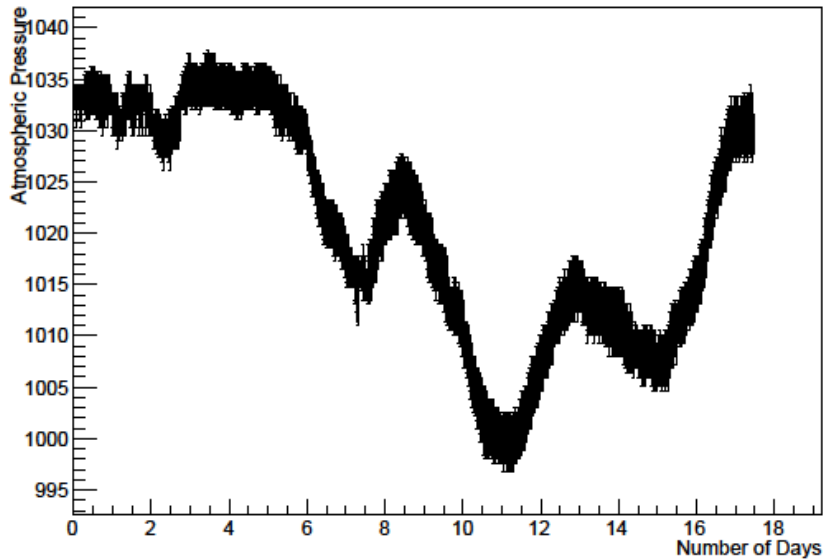
ILC.EXP_LPTPC.PRESSURE_PRESSURE1.AtmosphericPressure_PRESS.20161026-20161112.txt

Temperature and Atmospheric Pressure

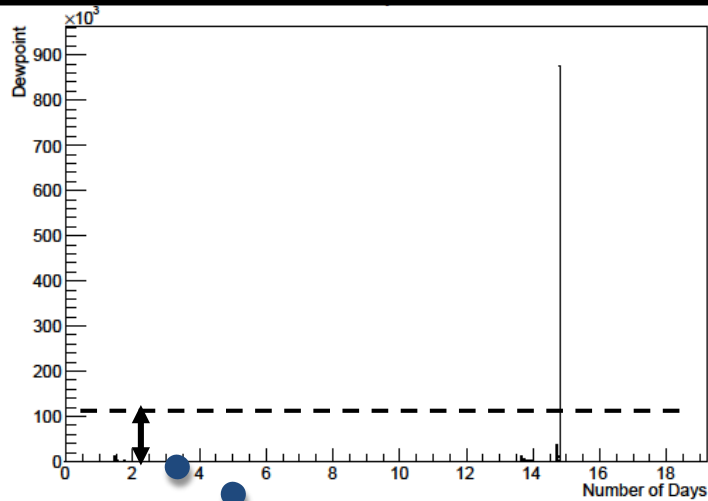
Temperature



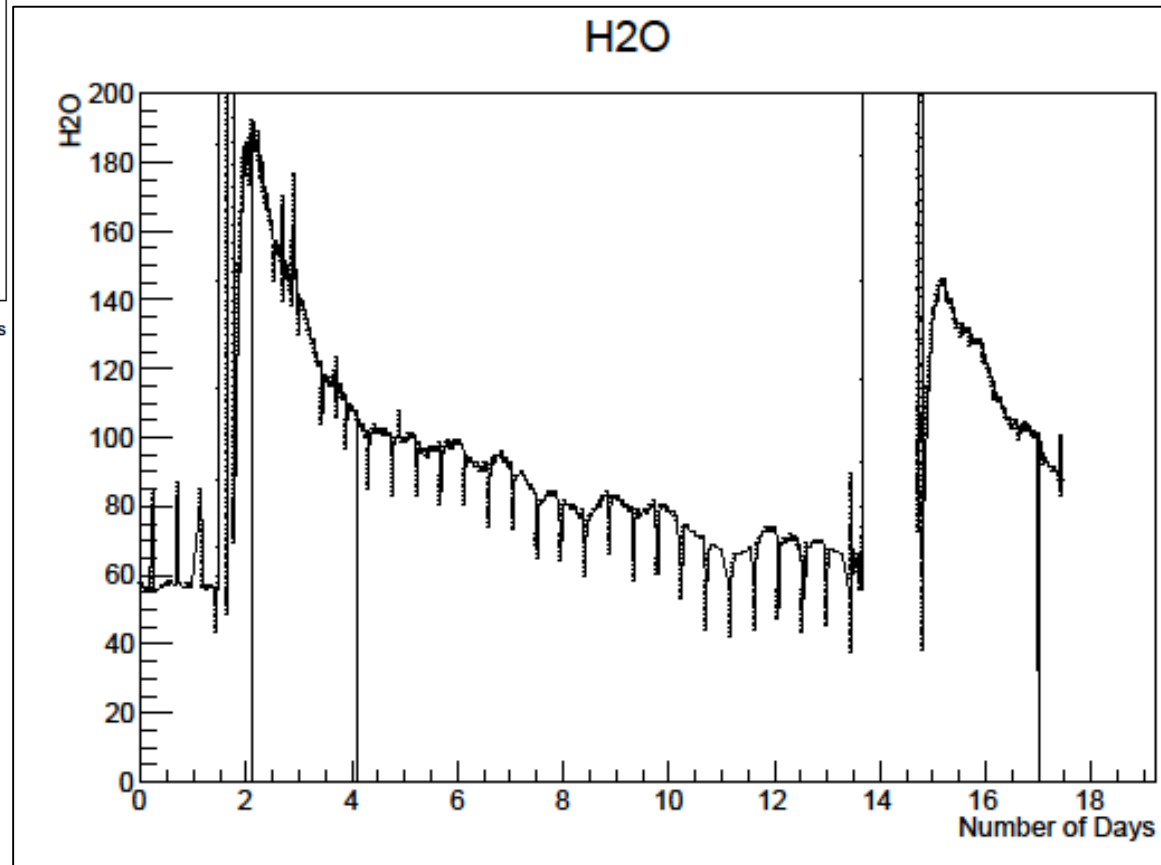
Atmospheric Pressure



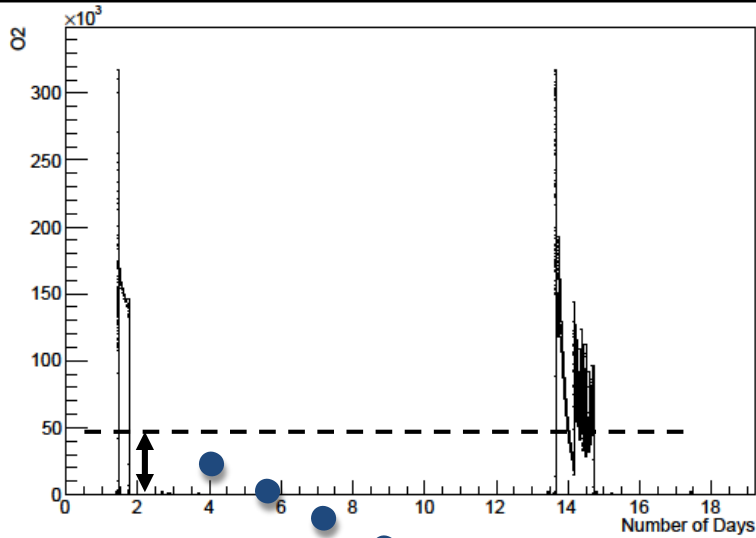
It seems that there is a subtle correlation?



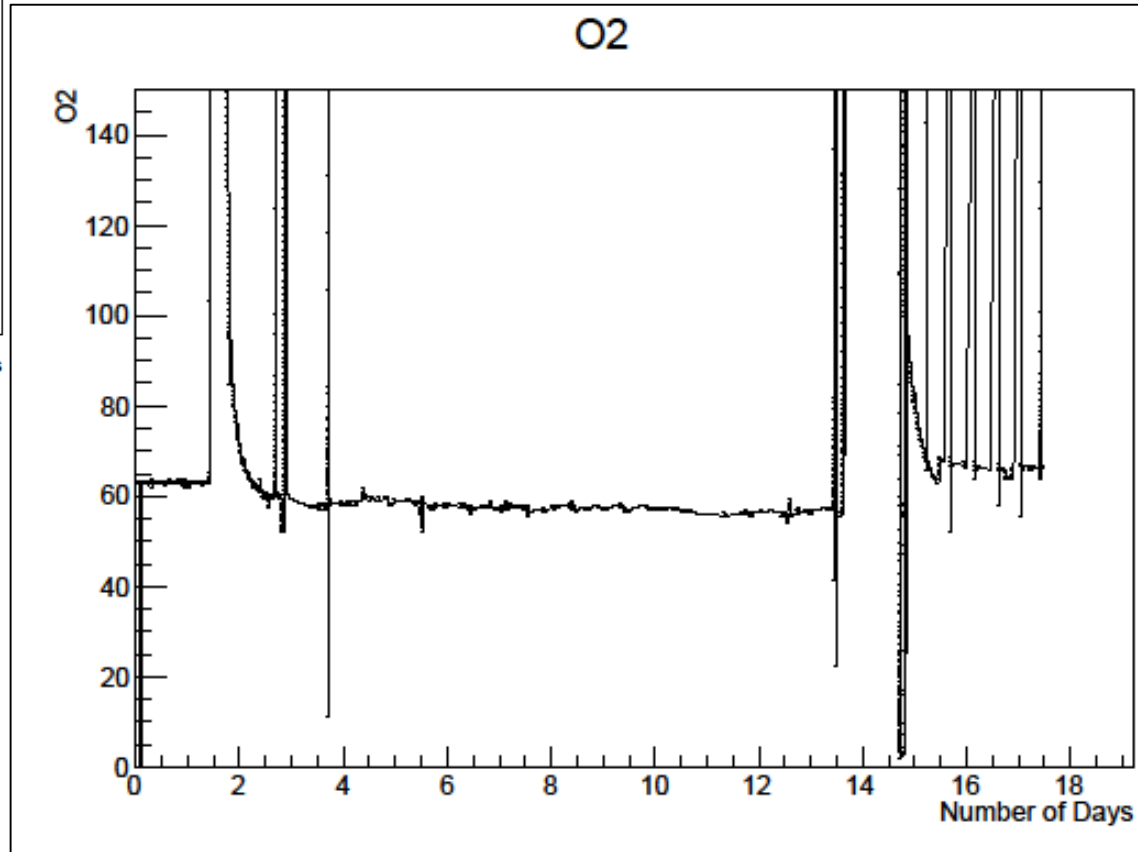
Expansion



- This recorded from 26. Oct. to 12. Nov.(2016) .

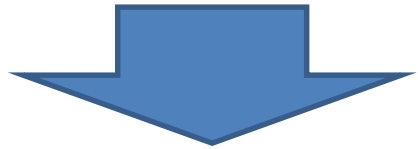


Expansion



- This recorded from 26. Oct. to 12. Nov.(2016) .

- I made some graphs of the environmental data using the macro.
- Temperature, Pressure, H₂O, O₂ have changes.



Using Environmental Data

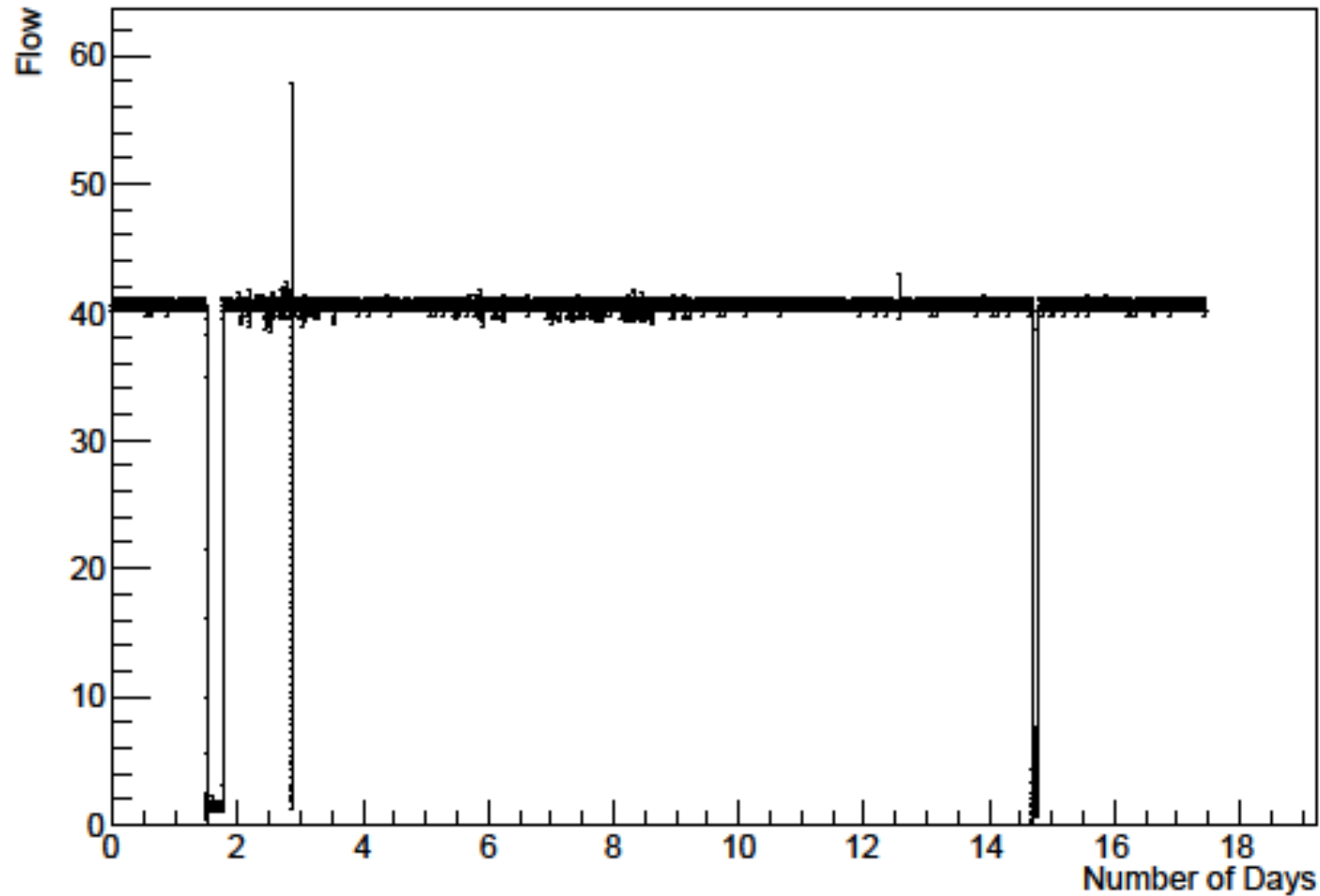
- Correction of Beam Test Data(Charge)
- Simulation of Cd(Diffusion Constant) and Number of Ionization electron

Next page : other graph

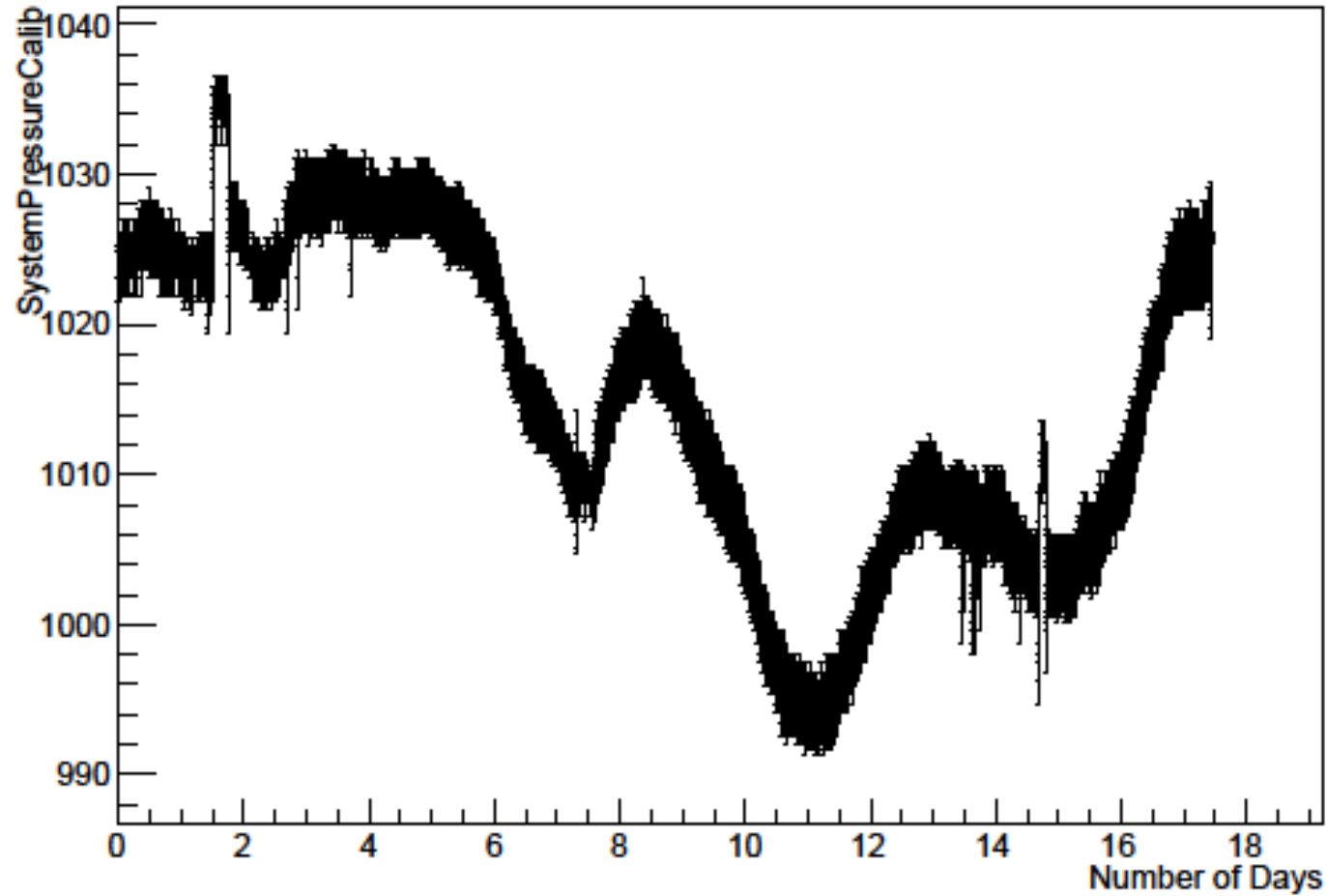
END.

ILC.EXP_LPTPC.FLOW_FLOW1_FVAL.20161026-20161112.txt

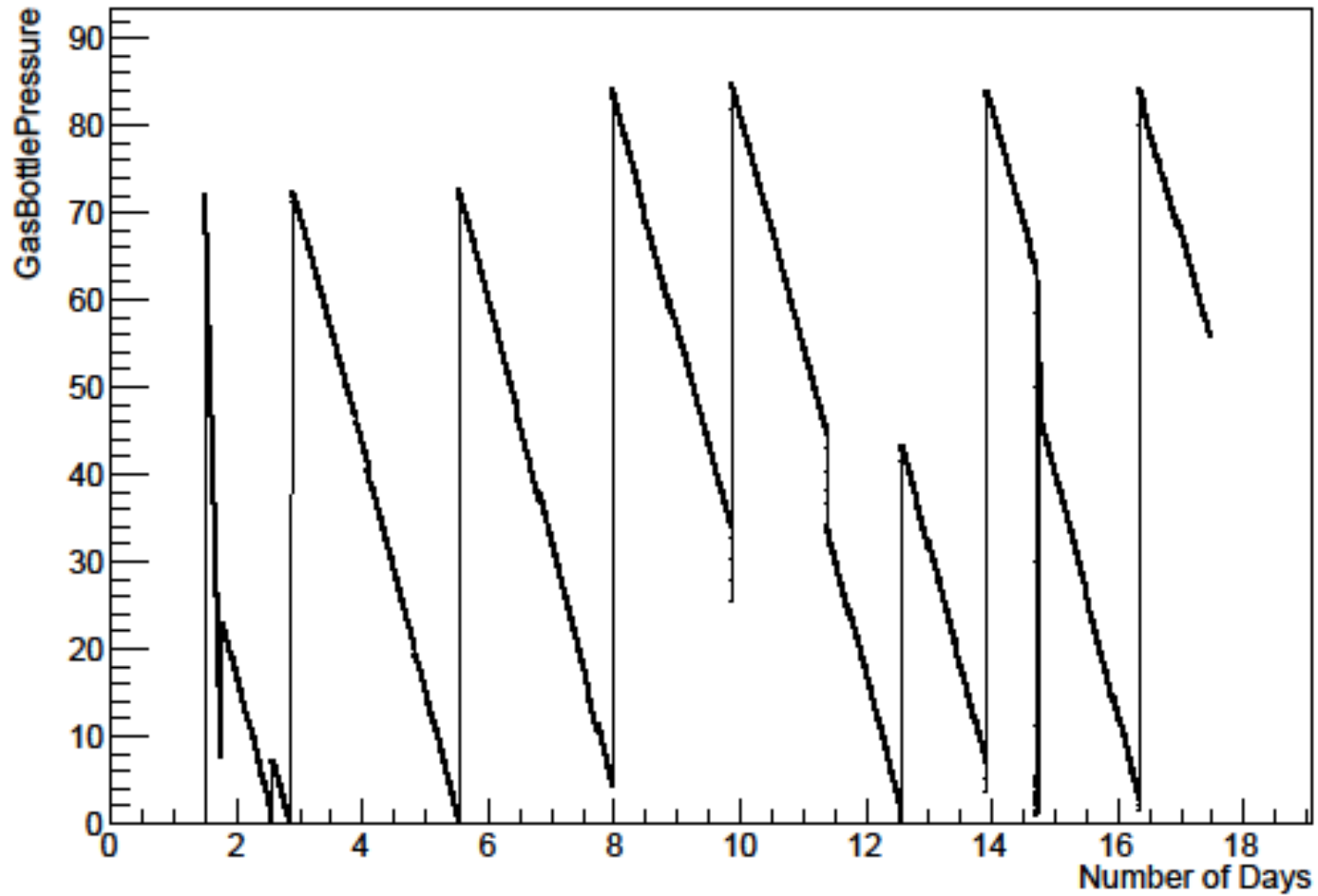
Flow



SystemPressureCalib

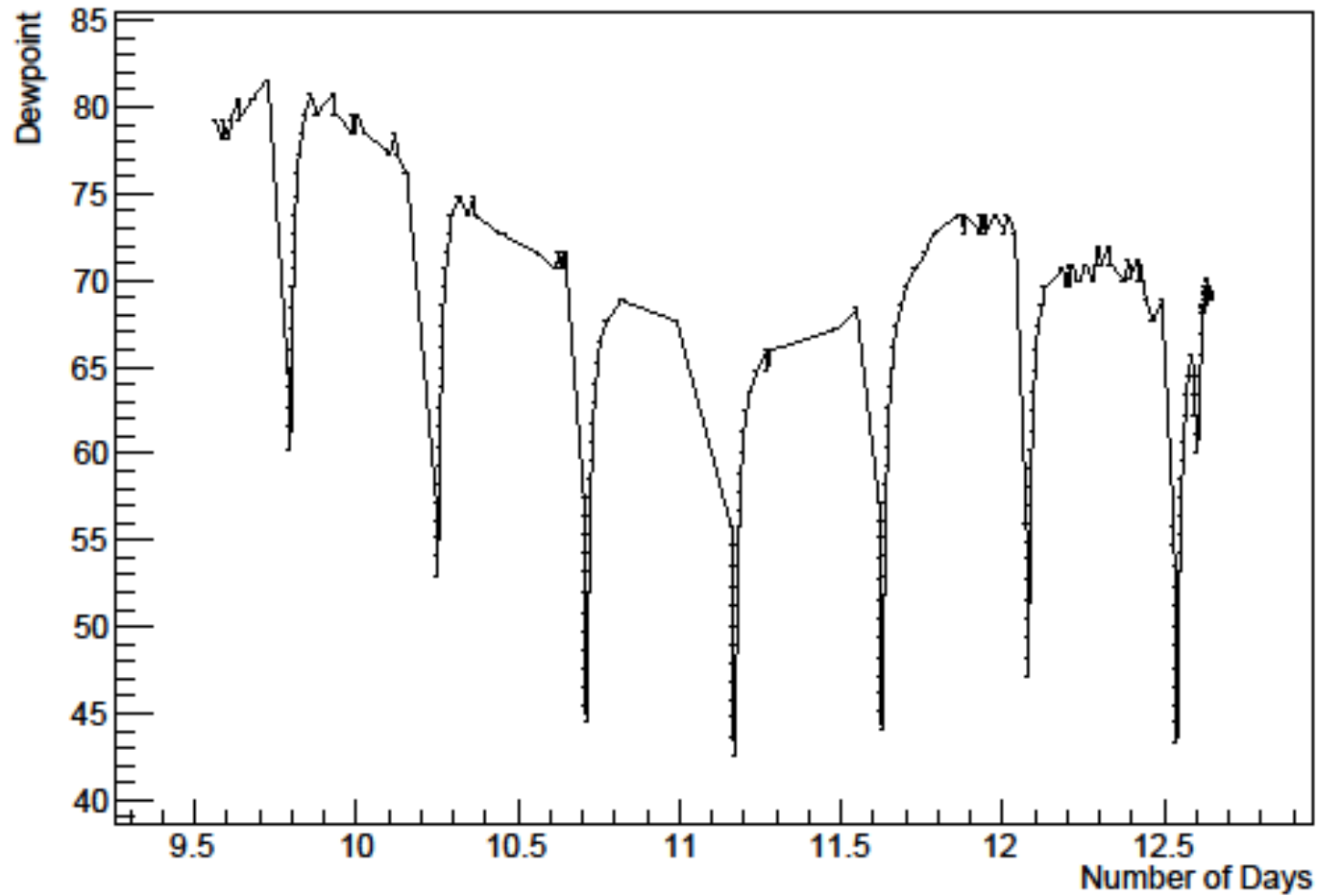


GasBottlePressure



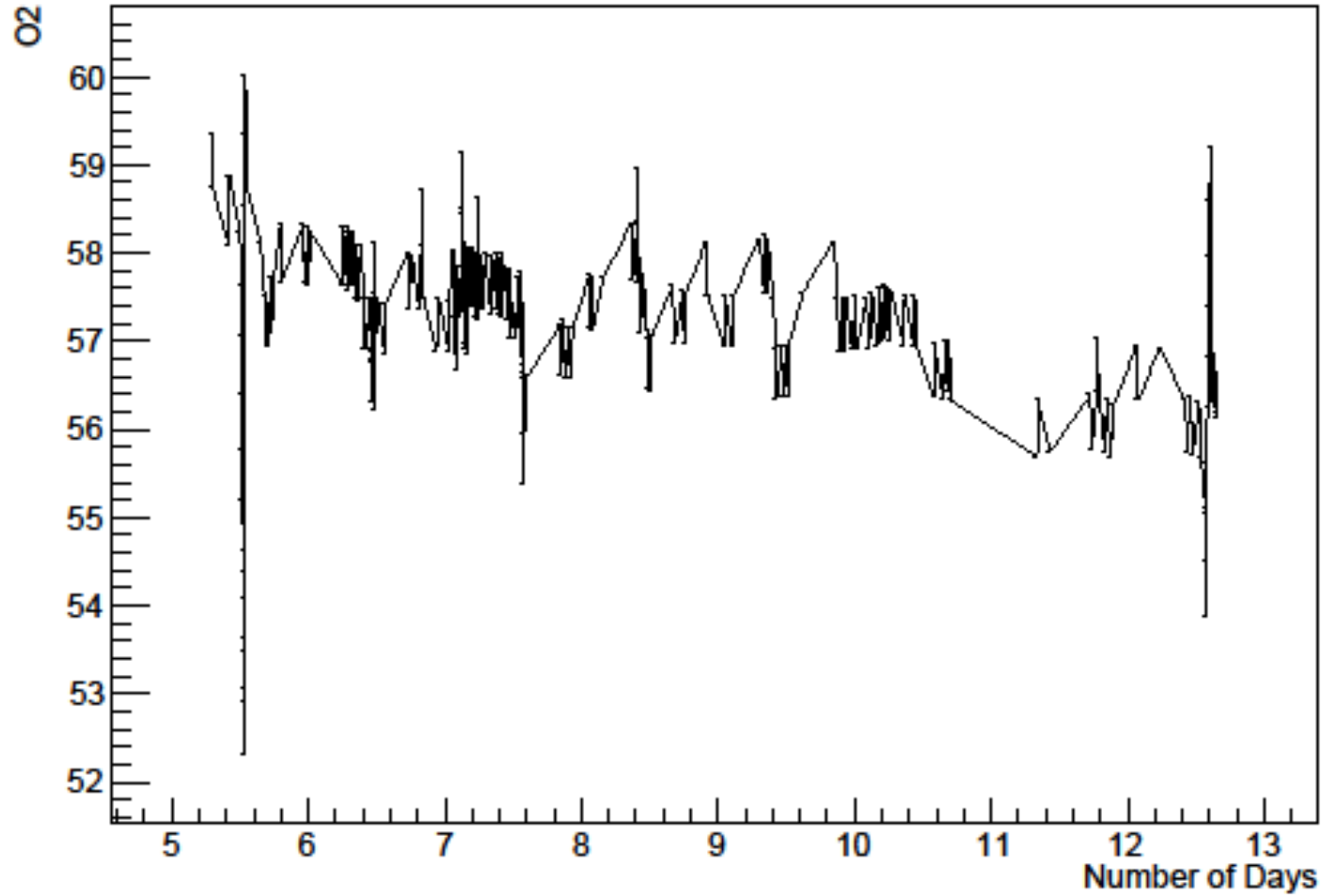
testILC.EXP_LPTPC.DEWPOINT_DEWPOINT1_H2OPPM.20161104-20161107.txt

Dewpoint



testILC.EXP_LPTPC.OXYOA1500E_OXYGEN1_OXYPPM.20161031-20161107.txt

O2



testILC.EXP_LPTPC.PRESSURE_PRESSURE4_PRESS.20161102-20161107.txt

Pressure

