

INTERNATIONAL COSMIC DAY

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Problematics

1

From the graph obtained, do you notice a trend that may indicate a seasonal variation in muons flux?

2

Do you notice a maximum or minimum flux?
When do they happen?

3

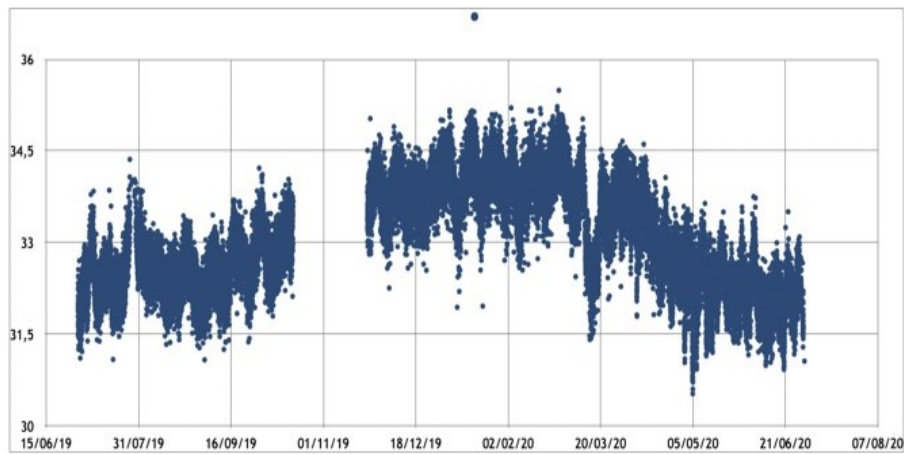
What variation in flux do you observe between maximum and minimum?

1 Seasonal flux

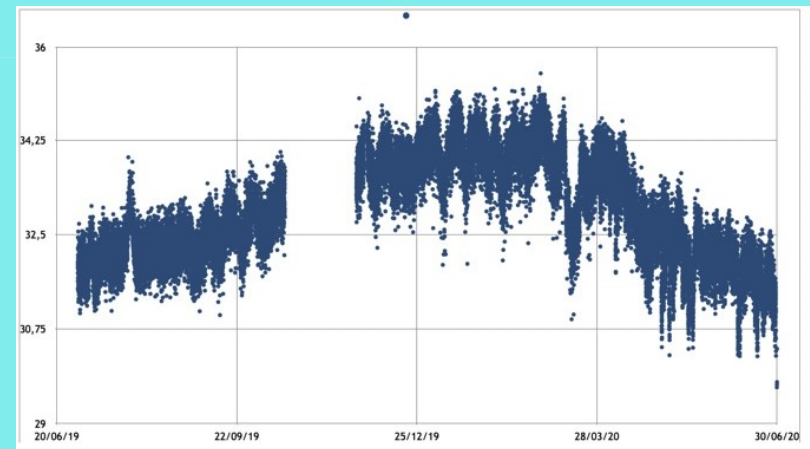
- Having examined the data collected by the detectors POLA-01 and POLA-03 we noticed the flux of muons to be greater during the winter season.
- We then came to think that the flux of muons might be influenced by temperature and pressure

Graphs compared

POLA-01



POLA-03

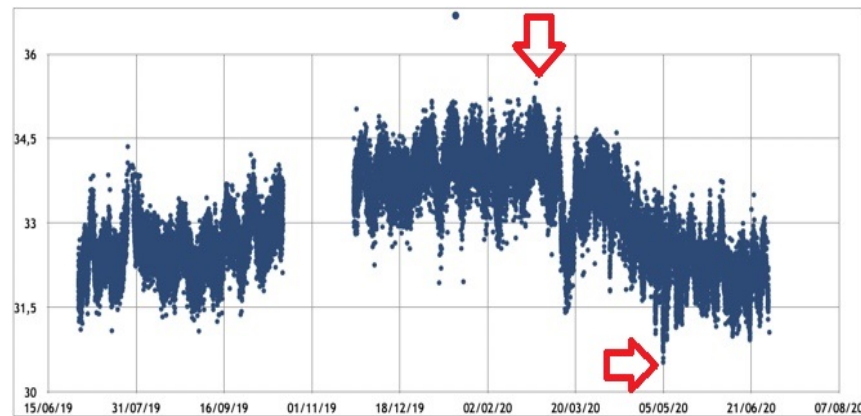


2 Maximum and minimum flux

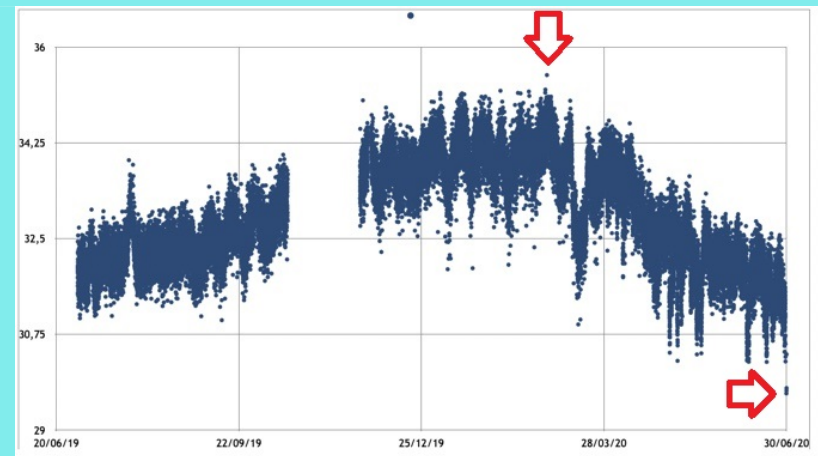
- We notice that in the POLA-01 graph the maximum value was recorded on 28th February 2020 with a frequency of 35,48Hz, and the minimum value on 5th May 2020 with a frequency of 30,52 Hz.
- We notice that in the POLA-03 graph the maximum value was also recorded on 28th February 2020 with a frequency of 35,48Hz, whilst the minimum value was recorded on 30th June 2020 with a frequency of 30,52Hz.

Graphs compared

POLA-01



POLA-03



3

Variation in flux

•The variation of the flux is:

POLA-1 => $(35,48-30,52) = 4.96$ Hz

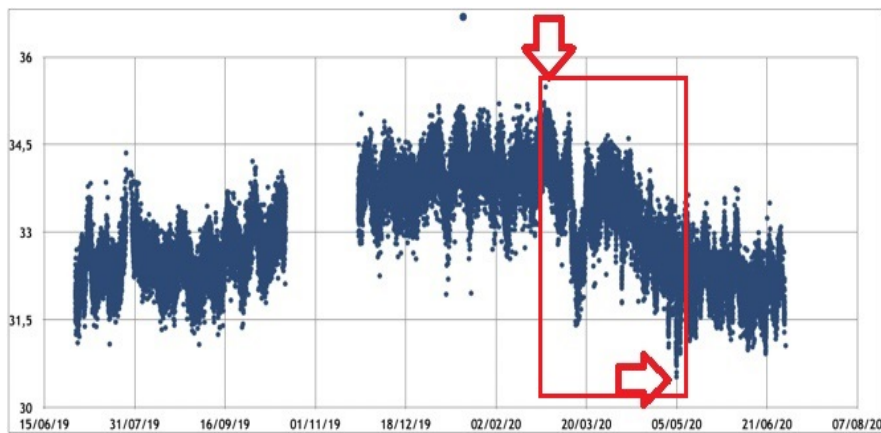
=> in percentage: $4.96/35,48 = 0,1397 = 14\%$

POLA-3 => $(35,48-29,66) = 5,82$ Hz

=> in percentage: $5,82/35,48 = 0,1640 = 16\%$

Graphs compared

POLA-01



POLA-03

