CENTRO RICERCHE ENRICOFERMI

INFN

MASTERCLASS EEE

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Extreme Energy Events
Science inside Schools

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INTRODUCTION

The purpose of today’s analysis is to learn how to use the data from the MONITOR (CERN-01, PARM-01, FERM-01) page to:

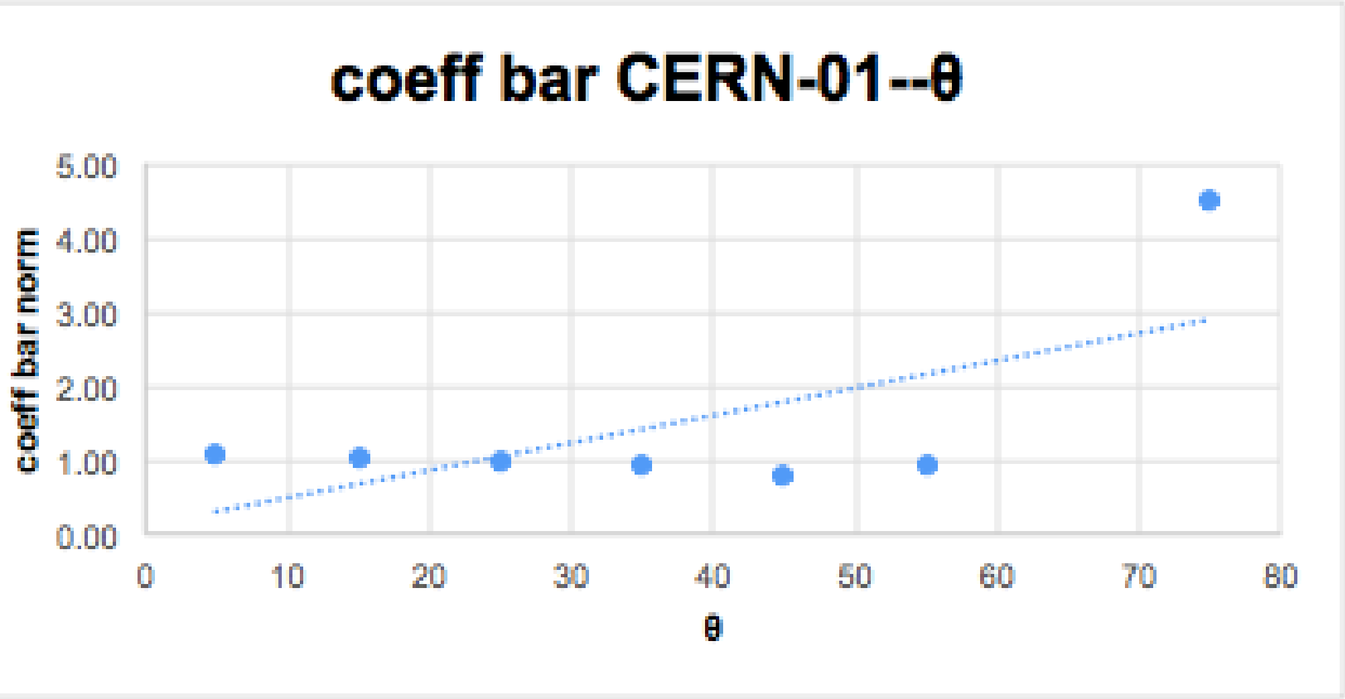
- understand the behaviour of the telescopes
- identify any issuses or anomalies in their operational parametres

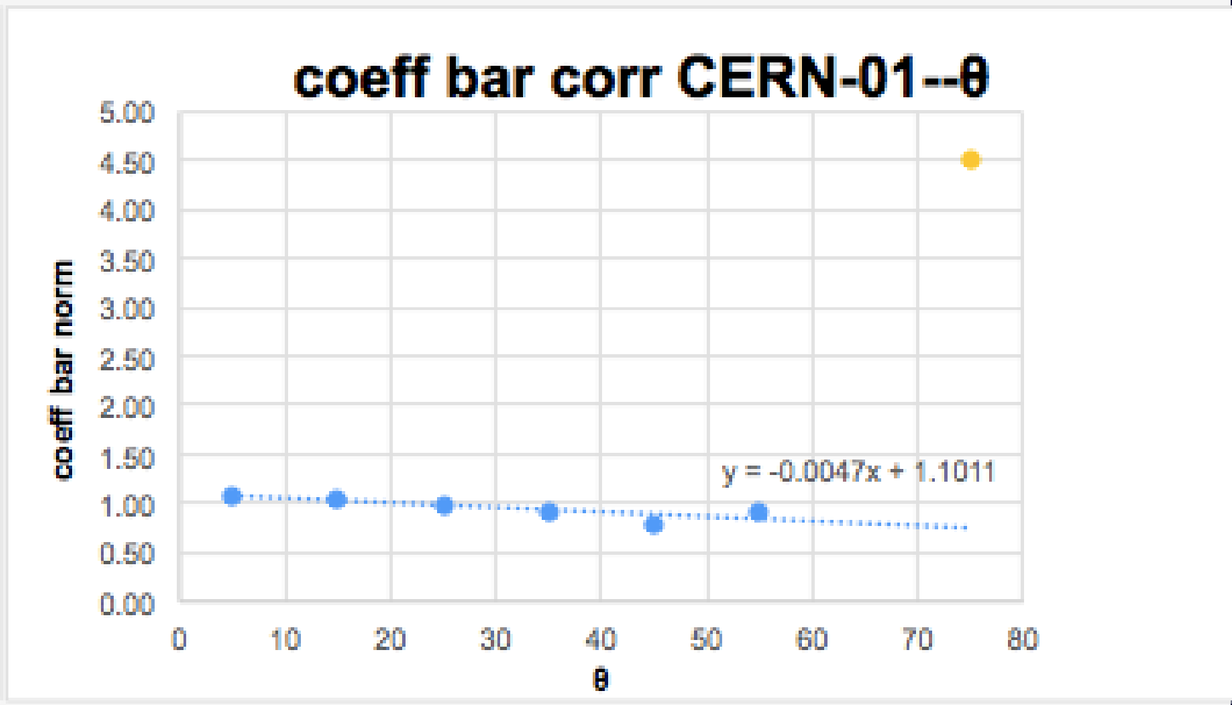
The ultimate goal is to enhance telescope monitoring and maintenance, ensuring optional performance and preventing potential faliures.

Analysis steps

- We studied how different angles of incidence affect the barometric coefficient for CERN-01, PARM-01, FERM-01
- We also analysed how this coefficient changes over a period of time
- In conclusion, we showed the barometric coefficients for different detectors: CERN-01, PARM-01, FERM-01

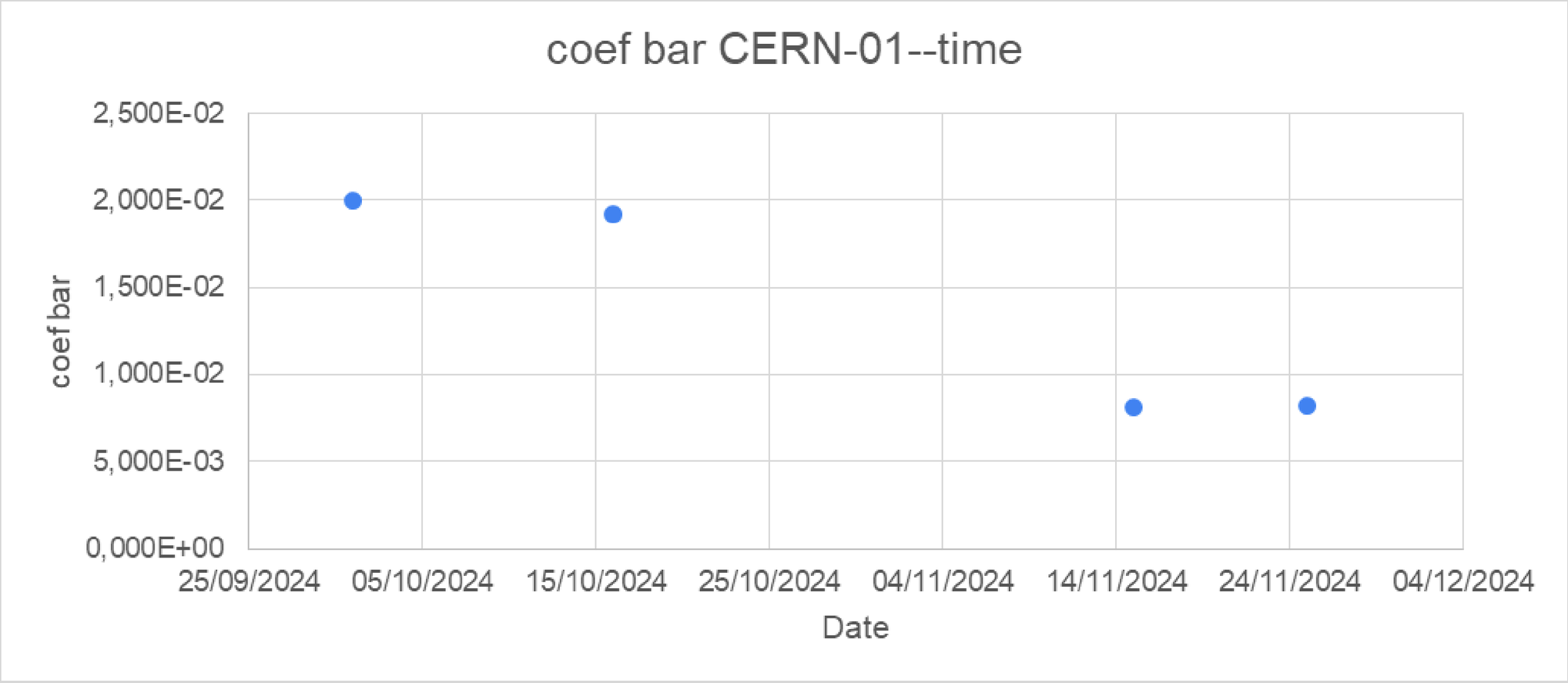
CERN-01





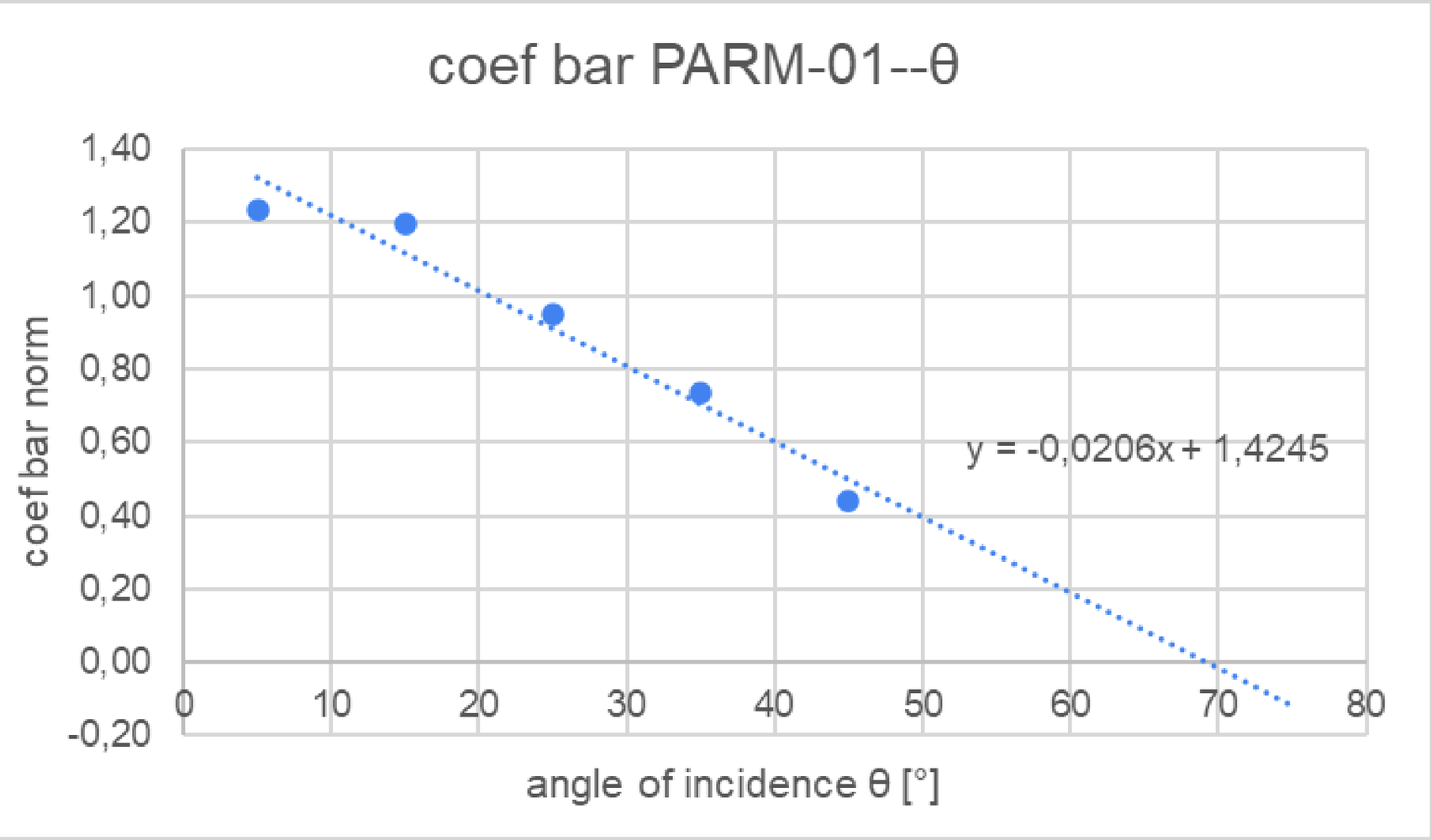
We normalized the barometric coefficients whit respect to the general coefficent, which is
We found a rather peculiar value for the barometric coefficient for theta between 60° and 90°.
We believe this is caused by backround noise.

CERN-01



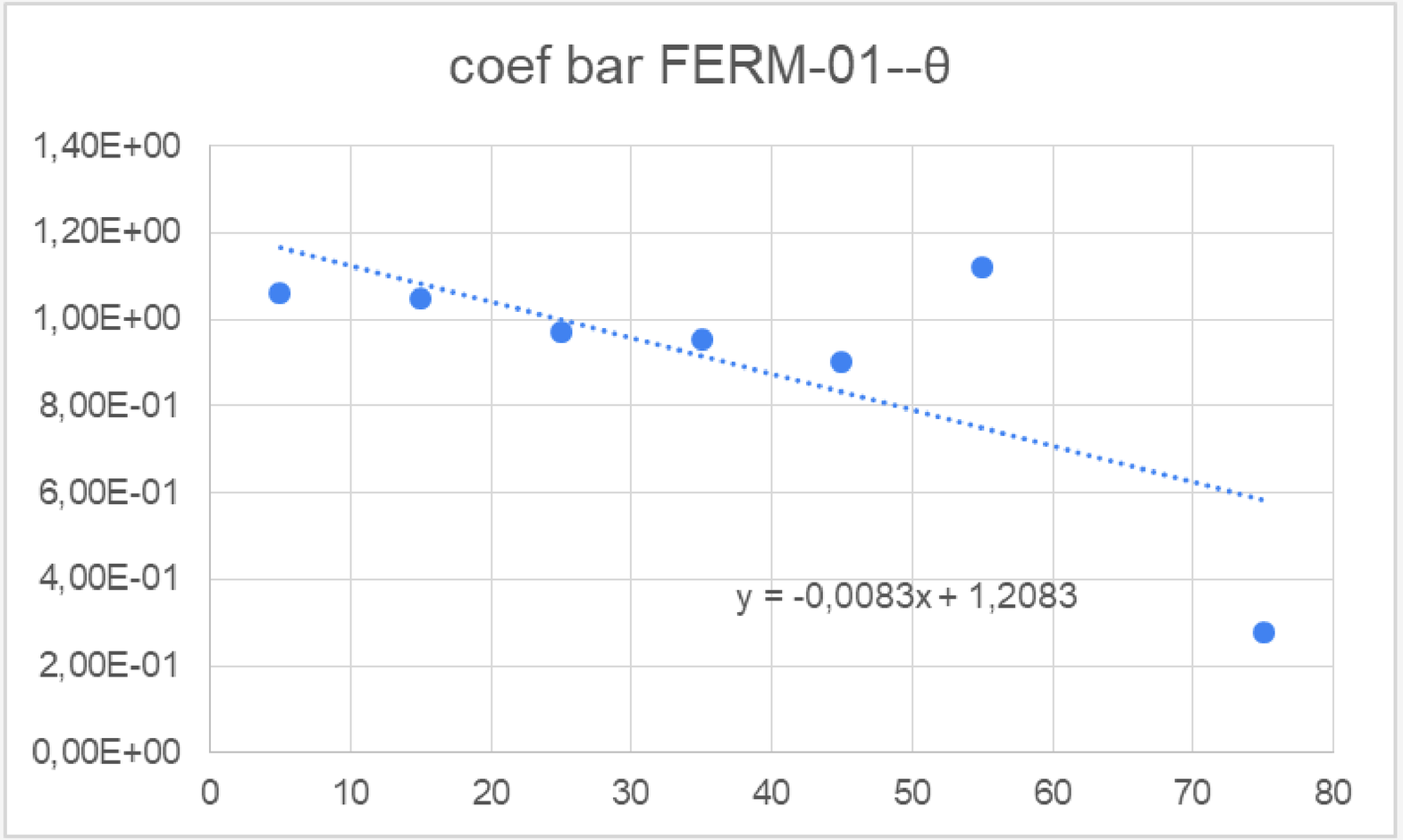
We analyzed how the barometric coefficient changes in function of time: so we considerate date from different time periods.

PARM-01



We have normalized the rates with respect to the general barometric coefficient, which is 0.006.

FERM-01



We have normalized the rates with respect to the general barometric coefficient, which is 0,00383.

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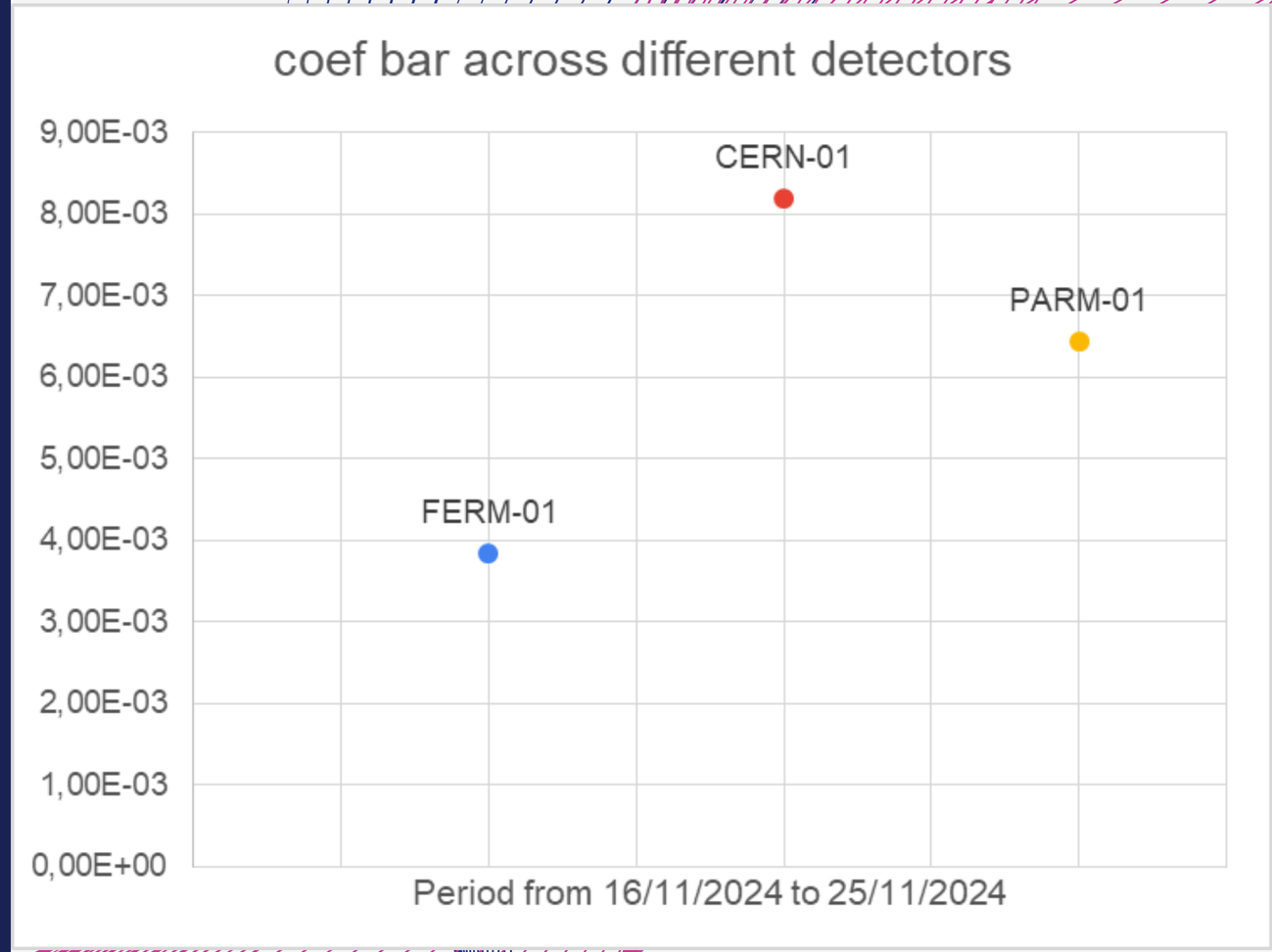
GENERAL COMPARISON

- We compared the barometric coefficient of different detectors to analyze how much each telescope is affected by pressure.



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CONCLUSIONS

- Across different detectors, as theta increases, the barometric coefficient decreases
- For the same detector, the barometric coefficient can vary through time
- In the same period of time, different detectors generally have different barometric coefficients

Group team I

THANKS FOR THE ATTENTION

Cannone Eugenio; Gerardi Cristian; Giannone Mariarita; Leonardi Sara Liana; Marsili Manuel;Pollicoro Andrea.