Extreme Energy Events
Science inside Schools

CENTRO RICERCHE ENRICO FERMI

INFN
Istituto Nazionale di Fisica Nucleare

LICEO SCIENTIFICO E LINGUISTICO STATALE ALTAMURA
FEDERICO II DI SVEVIA

The students of Altamura
from Liceo Cagnazzi and
Liceo Federico II of Svevia present:

MASTERCLASS
2025

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ABOUT US...

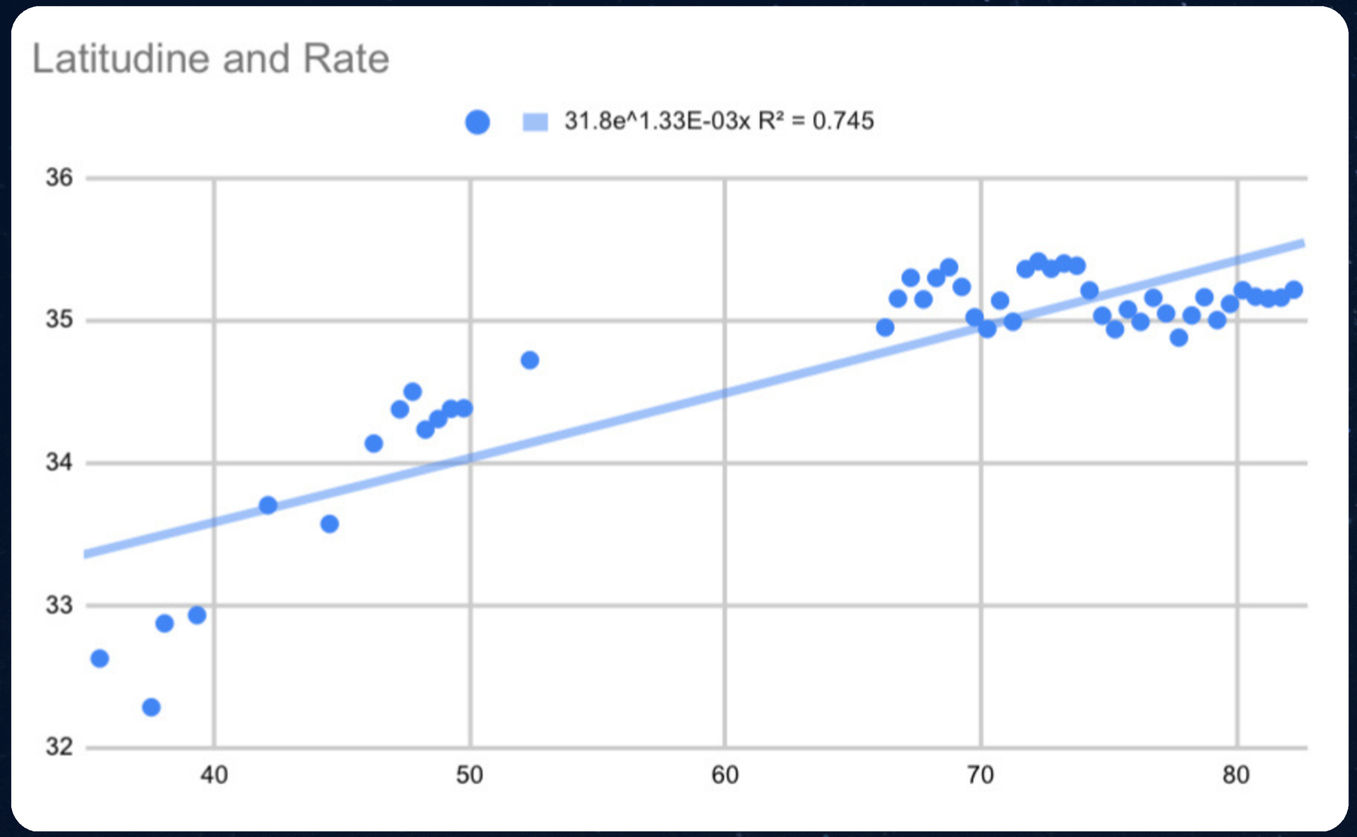
We come from Altamura, a town located in Apulia.

Our schools are Liceo Classico Cagnazzi and Liceo Scientifico Federico II di Svevia, where we had the opportunity to take part to the EEE Project.

What did we do?

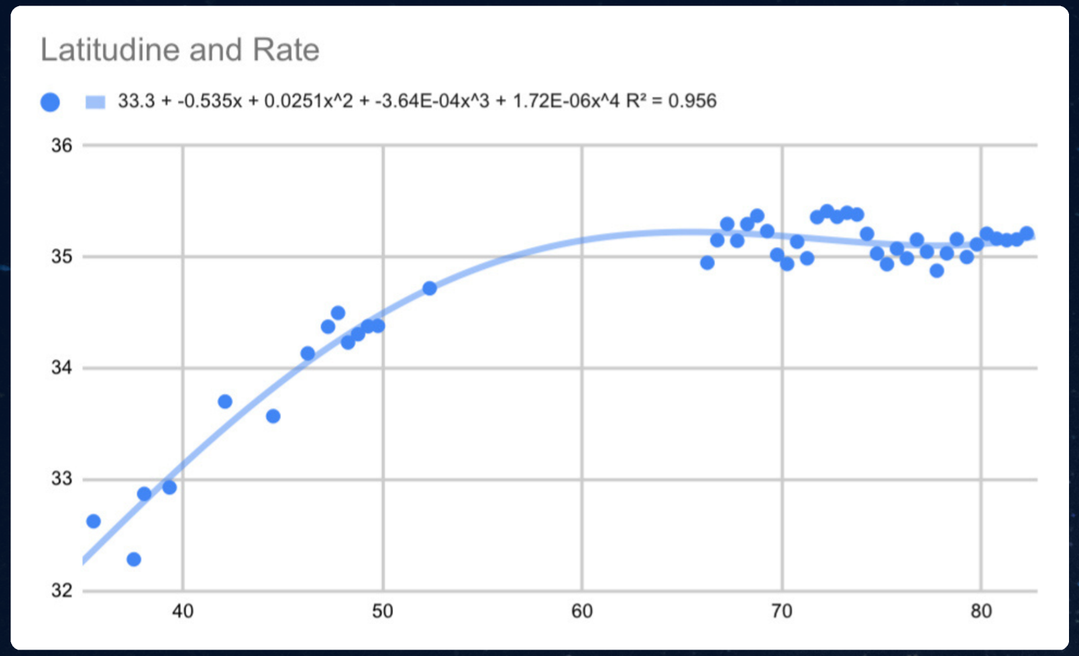
- Choosing the right fitting function is essential to compare data collected in different measurement.
- We tried fitting the rate as a function of latitude through different functions.

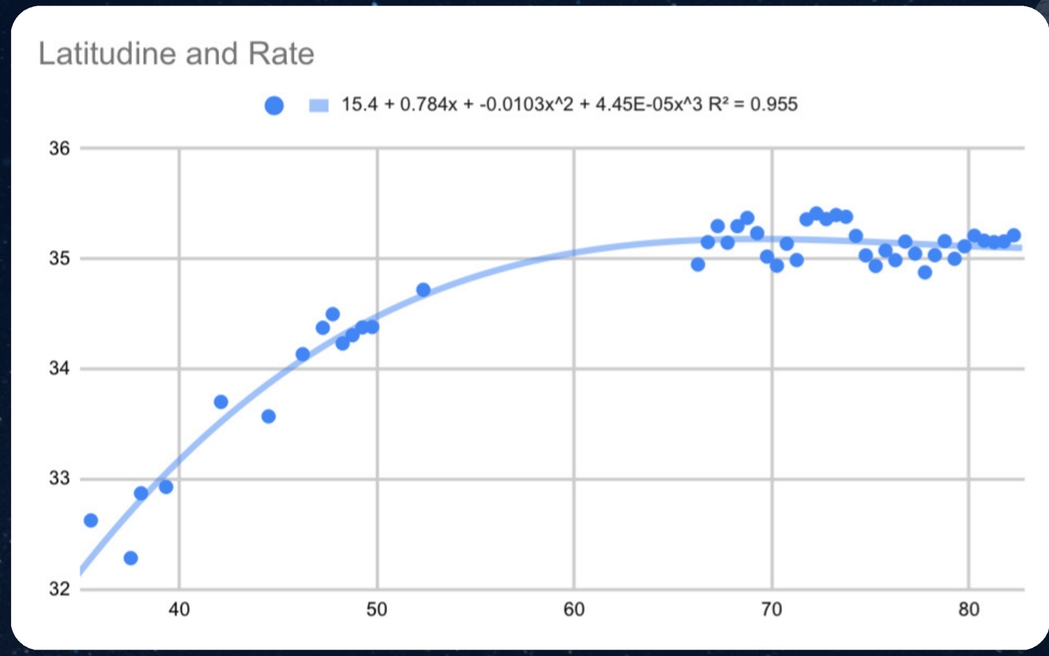
EXPONENTIAL



Almost negligible exponent coefficient (**1.33E-03**), thus resulting in an almost linear fit.

POLYNOMIALS

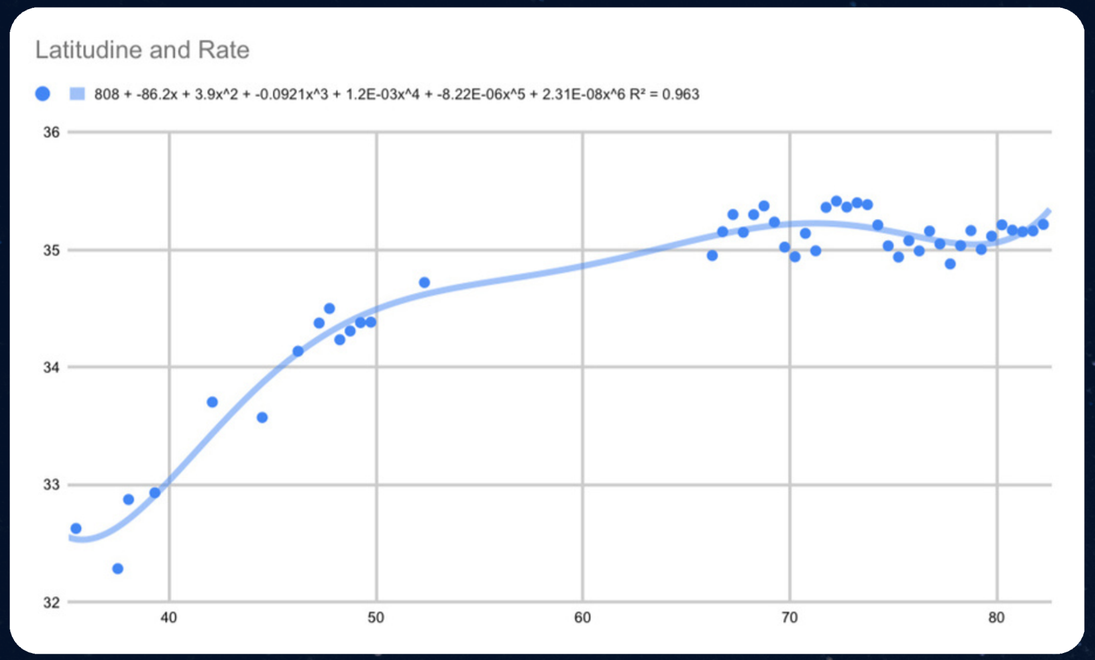


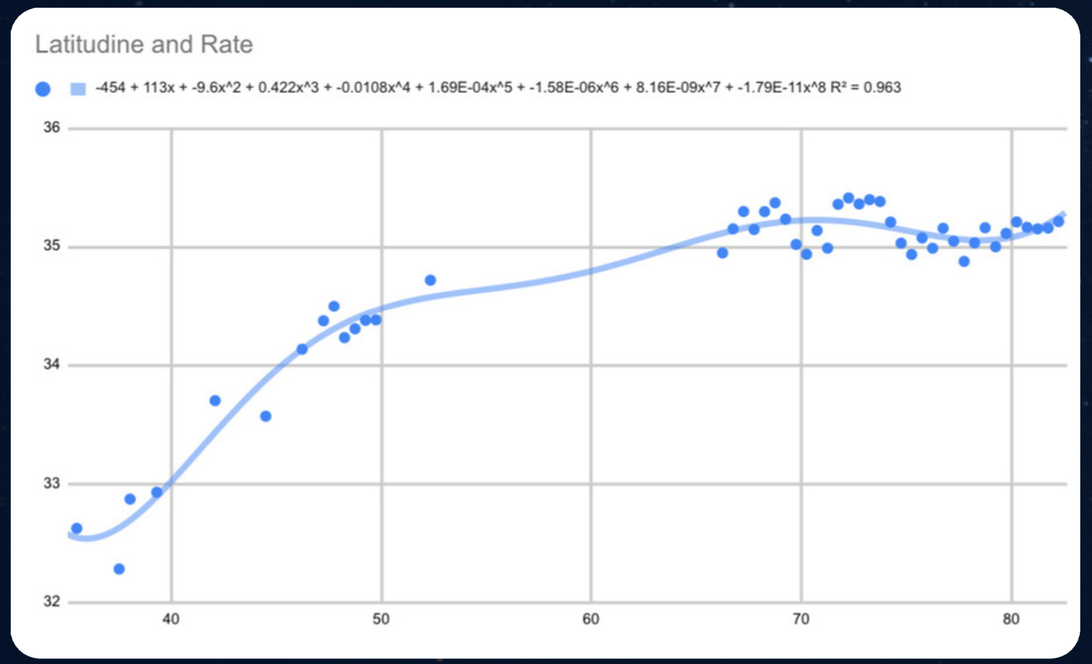


We have tried using third grade and fourth grade polynomials

The two curves behave in a very similar way, although the fourth grade polynomial shows a slightly better R^2 coefficient.

Polynomials seem to be the best fitting curves for these data files.





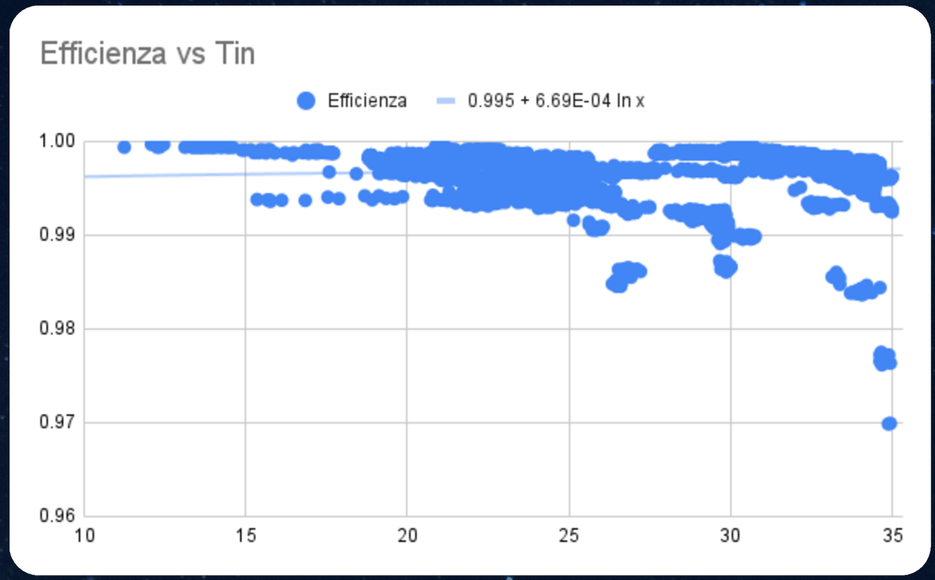
We also tried using higher-degree polynomials (6th and 8th degree) and found out that higher degree polynomials appear more susceptible to the lack of data in the latitude interval not covered by the measurements, presenting an unwanted depression.

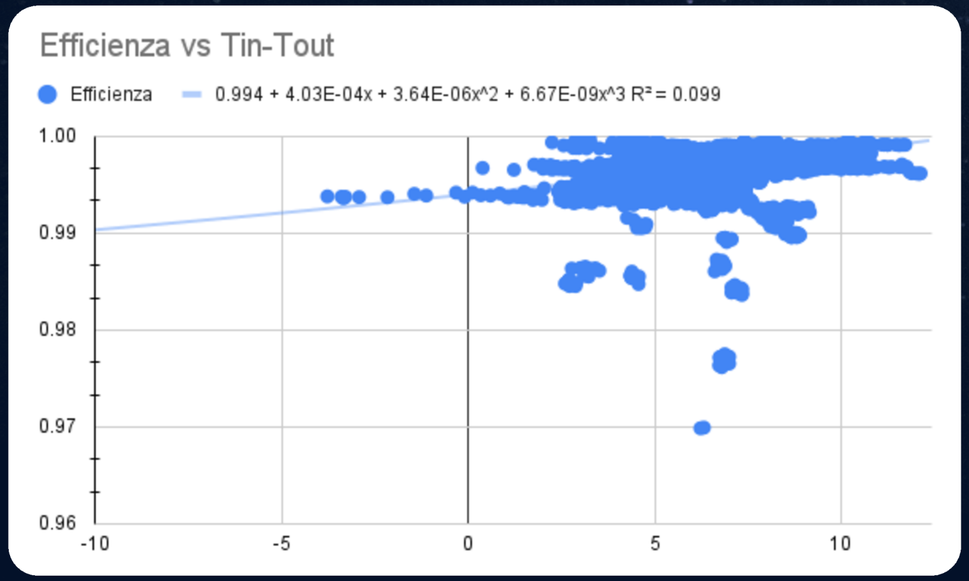
EFFICIENCY vs TEMPERATURE

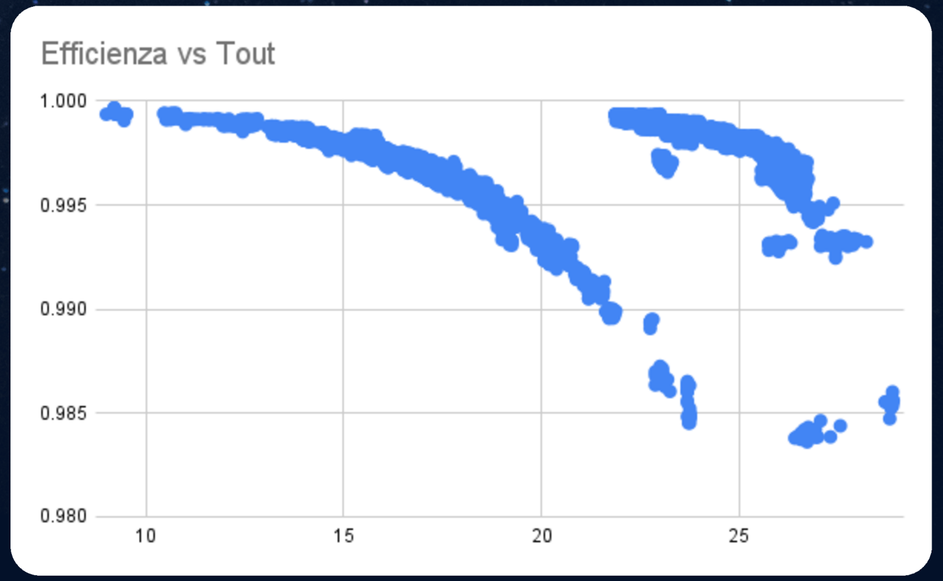
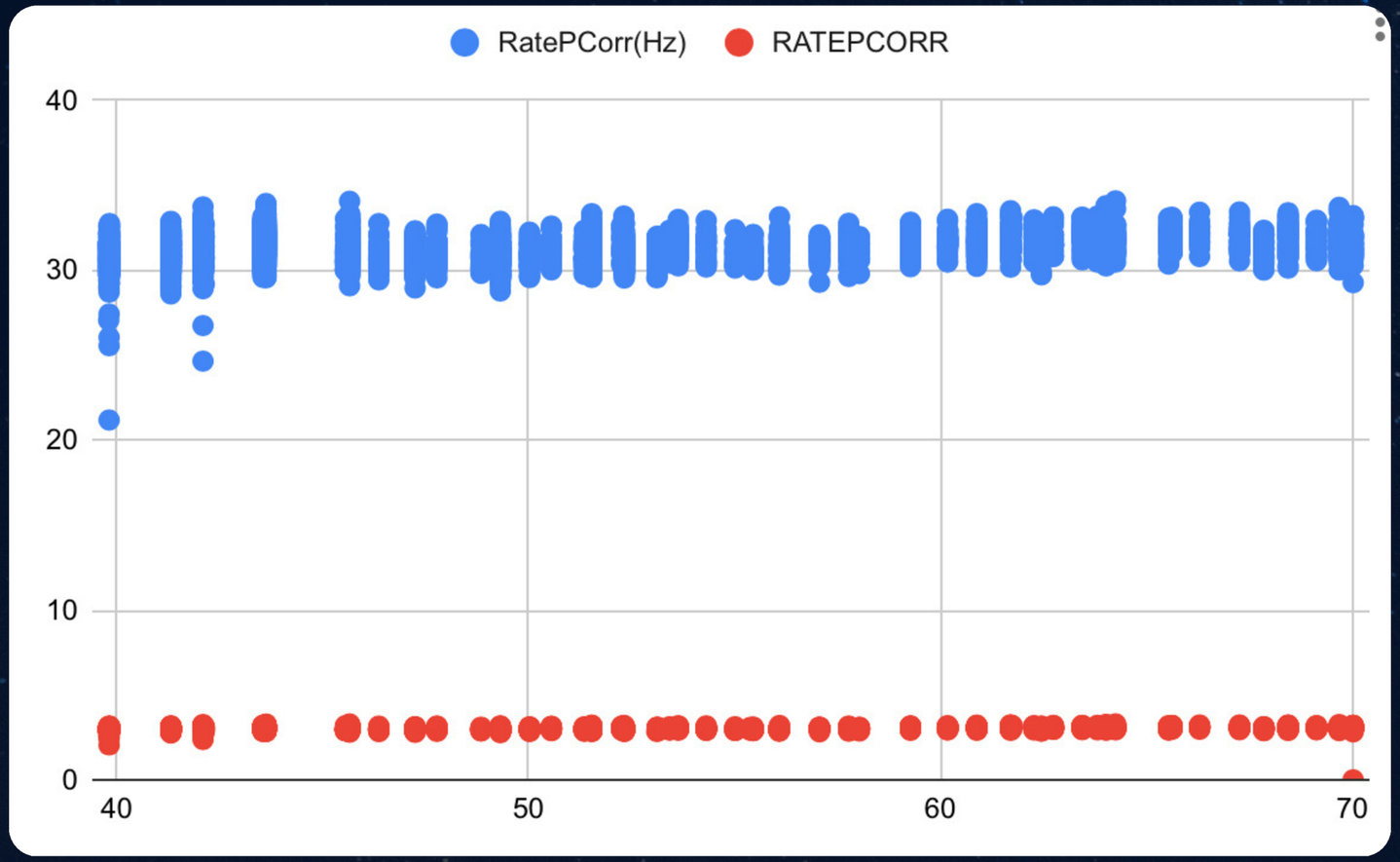
We studied the relation between effinciency and temperature, in three different cases.

1. Difference between Tin and Tout
2. Tout
3. Tin

The graphics show no correlation between efficiency and temperature.







MOVING VS FIXED