Hands-On Session

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What is the idea?

- we want to help anyone to start analyzing data relevant for commissioning

- I want to share my code, to avoid unnecessary rewriting*

- we want to give interesting examples that target the work packages:

https://www.auger.unam.mx/AugerWiki/SDEU_Front_Page?
action=AttachFile&do=get&target=work_packages_2024_03_27.pdf

*might be good at one point in any case

What will happen ... ?

- there will be problems or bugs as *you* (unfortunately) are beta-testers of the code

- we cannot provide a general "masterclass" on use of Auger-software

- the examples are only examples of known things, the work is needed in the unknown part

More Caveats

- there are three examples listed:
    1. monitoring / PMT-cuts
    2. trigger data
    3. noise analysis

- the extend of 'usefullness' of the given data set are different:
  - the monitoring will persist but real implementation should go to monitoring not in a private repository (prototyping only)

  - the trigger data is mostly useful for 'debugging' the array and not for any physics analysis

  - the noise analysis should at some point be possible in monitoring … but you can use it as simple introduction to reading trace data directly

General Structure

- Each example should include
    1. explanation of the data set and where to get the data from
    2. instructions on: where to find the code and how to compile it
    3. examples of simple analyses that can be done with it

- general culprits:
    - python environment: there is no special env. provided, but packages are used
        make sure pandas, numpy, matplotlib are there

    - I use boost (mostly for command-line features): you need it installed for compiling the
      C++ code
    - everything was only tested on Ubuntu 22.04 with gcc 11.4 with CDAS v6r4p0 with
root-5