Special Analysis Cases

autoMAGIC Workshop Padova

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Analysis of Moon Data

- Main difference: start on calibrated data necessary
  - Calibrated On, Off, and MC data needed!

- The data will be subdivided into the standard DC ranges and the cleaning levels will be adjusted automatically

- For the MC data, the corresponding noise level is added automatically

- Design decision: noise is added to dark Off data instead of searching for Off with the same moon level

Analysis of Moon Data

- For a moon analysis you have to add the data on calibrated level:
  - ➤ `automagic create_jobs add_data on`
  - ➤ `automagic create_jobs add_data off`

- You might have to set the calibrated dir in the user config according to the directory your calibrated files are stored in

- automagic specifically needs the standard directory structure!
  - ➤ e.g. a list of all data without directories containing the date won't work
    - Open issue, should be improved before massive production of moon data

Massive autoMAGIC Productions

- Not only analyses of specific sources, but also massive productions up to a certain data level are possible with autoMAGIC

- Use the two commands:
  - ➢ `automagic create_jobs production coach`
  - ➢ `automagic create_jobs production superstar`

- The massive production jobs are designed to start on calibrated data!
  - ➢ Make sure the data is in your database (and available on PIC) beforehand!

Diffuse Analyses

- You can do diffuse analyses by specifying the use of diffuse MCs in the automagic analysis config

- Make sure you have filled the required MCs beforehand!

- Make sure to also adjust your IRF type in the DL3 converter

Analysis of Sum-Trigger-II Data

- Sum-Trigger-II: Special low-energy trigger

- Analysis requires special cleaning algorithm: MaTaJu cleaning
  - Done in sorcerer
  - Distinguish GAL and EGAL cleaning levels (done automatically in autoMAGIC)

- Start on RAW data necessary!
  - Data availability is really a pain...

- Most important information in the runs table: L3_table
  - Sum-Trigger-II data has the L3_table name `L3T_SUMSUM_100_SYNC`

Analysis of Sum-Trigger-II Data

- A whole bunch of additional information is required in the DB for the analysis of Sum-Trigger-II data
  - Calibration and pedestal run information
  - Raw file paths
  - Pointing information in the pointings table
  - Suitable Sum-Trigger MCs
  - In most cases: low-energy MC extension
  - Depending on the analysis case: pre-processed MaTaJu calibrated or superstar files

- Analysis is handled in a dedicated pipeline with its own job tables
  - Strong deviations from standard analysis pipeline

MaTaJu Analysis of Standard Trigger Data

- MaTaJu cleaning also applicable to standard data
  - ➢ Can lower energy threshold

- Pipeline is the same as for Sum-Trigger-II data

- Also here: Start on RAW data necessary!
  - ➢ Can be problematic because not stored for more than 5 years