

DAQ data in MAUS. What is new?

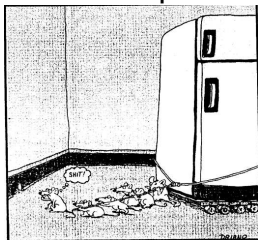
Several revolutionary changes have been made.

Unpacking:



- It was impossible to adapt the old unpacking code in order to fulfill the needs of the new detectors (Tracker in Lab7 and EMR).
- The architecture of the unpacking has been changed in order to make it more flexible and more reliable.

G4MICE has been replaced by MAUS.



The structure of the data has been changed:

- In G4MICE the data was grouped in particle events. This is in contradiction with the real structure of the data.
- Now in MAUS the data is grouped in spills. MUCH BETTER :)

The data is recorded using JSON:

- As a consequence of this MAUS is slower.
- But now the data is much more "humane readable". If you print the data on paper you can read it as a book.

TOF reconstruction in MAUS.

- The brand new structure of the data makes impossible to reuse the old TOF reconstruction code.
- Again the architecture of the code has been changed.
- The new TOF reconstruction is slower.
- But it is a bit more efficient due to the better treatment of the PMT's afterpulsing.
- The space coordinates are not reconstructed for the moment.
- Up to now I did not get any feedback from the users of the code.
- Large room for improvements here.

Conclusions and status of my work:

- Chris Rogers said: "Unpacking has now been merged with MAUS trunk. So not quite polished yet. But the main bulk of the work is in I think". I agree 100%.
- The unpacking of the tracker data is still not in the trunk. This work is 95% done. But I have no experience with the tracker detector. This means I will need much more help from the tracker group during the debugging of the code.
- The basic functionalities of the TOF reconstruction have been implemented in MAUS. This is a good reliable chassis but a lot of work is needed in order to make it a racing car.