

# Comments on Analysis Tools

## A Bit of History

- Evolution of variables for qualification of good modules: from ped and noise only, to pinhole, LED and gain, then (partially) back again
- Tuning of cuts:
  - Almost stable now for TIB detectors
  - To be finalized in TEC and TOB
  - To be done for TID and stereo (no modules available yet)
- Evolution in time of information (measurable quantities) to be written in the DB

## Xml, macros, DB

- A few attempts to write summary xml files from test result output: xml parser in ARC and LT, plus some clients to look at test results since 2002
- Final requests for DB tables (V. Zhukov et al, October 2003)
- The analysis macros: Tony, Patrick, Riccardo. They do the job...
- But... no “complete analysis tool” to get to the finish line: write data in DB!
- March 2004: clear evidence, urgent analysis tool needed, TIB production already started!
  - Lionel starts to work on DefAna
  - Cristiano and Riccardo on xFLAG

# Today's Picture (1)

## The SW used in the test centres: DAQ

- ARCS 7.0 is widely in use (100% in T1 B) for production
  - ROOT files ~ good, minor bugs to be corrected, request made to ARC team
  - Xml parser: output not DB compliant
- ARCS 7.1 (and maybe ARCS 7.2?) are presently working only in few (mostly TEC) centres, ✍ limited use for production
  - Xml parser: output DB compliant or not?
- LT\_1\_24: latest release, in use for production
  - ROOT files good, Tool-ID missing
  - Xml parser: output not DB compliant

## Today's Picture (2)

### Analysis tools

- xFLAG: an “easy to use” tool to produce xml files starting from ARC and LT root files. DB compliant, OK for Module Qualification
  - xFLAG working with all released versions of ARC (6.2 to 7.1) and LT (1\_22 to 1\_24)
  - Main Purpose: produce xml files for DB
- xFLAG in use since 2 months, results in DB:
  - 468 ARC MODVALIDATION (372 TIB, 86 TEC, 10 TOB)
  - 202 LTSUMMARY after thermal cycles (all from TIB)
- All requested bug fixes implemented (version 1.5.1 on May 31<sup>st</sup>)

## Today's Picture (3)

### Analysis tools

- DefAna (you've just seen that!): a global tool from modules to large structures analysis.
- Does it work now? (I hope to know the answer...)

Now, what's next?  
How do we proceed?

- Next SW releases, both ARC>7.1 and LT>1\_24, should **NOT** change root file structure for "single module" output
- SW should take into account already requested "bug fixes"

## The Near Future

Given the satisfactory performance of macros + xFLAG

- ✍ The overall qualification strategy must stay as it is now, in all analysis SW tools
- The cuts, in principle, could be still modified but only if it is strictly needed
- Remember: each change in cut thresholds implies redoing analysis on all the modules of the same type affected by the change (valid for both xFLAG and DefAna) and uploading again to DB

## Xml Files for DB

- Since at present xFLAG is (the only?) working tool, go on using it to produce xml files
- NO stops to production, at least until petal-rod integration
- If next ARC and LT releases will produce good xml files they can be used as well, provided the results are fully compatible with present ones

## The quasi-Near Future: Petals and Rods

- xFLAG is not foreseen to be used on large structures
- DefAna SW developers must take care of compatibility of results (back and forward)
- DefAna is likely to be the tool for petals and rods LT, but a clear strategy for analysis of large structures is still missing: we will learn more as soon as more petals and rods will be ready
- TEC and TOB community must help to take SW for rods and petals at “production level” in a short time