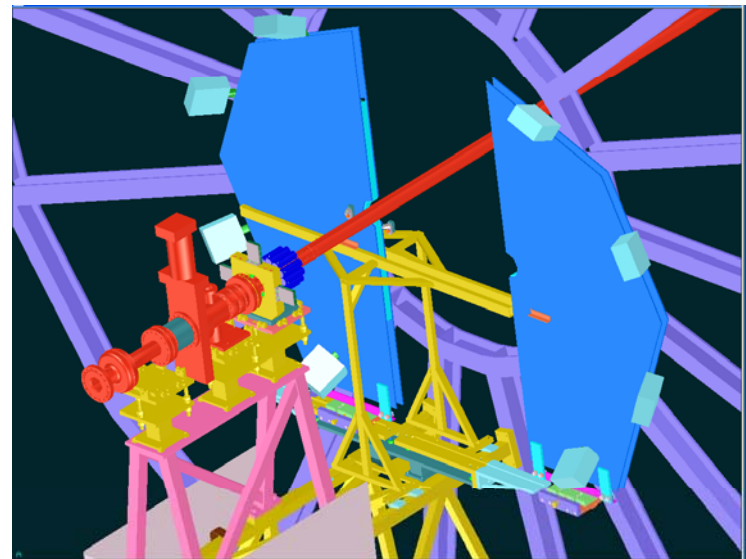
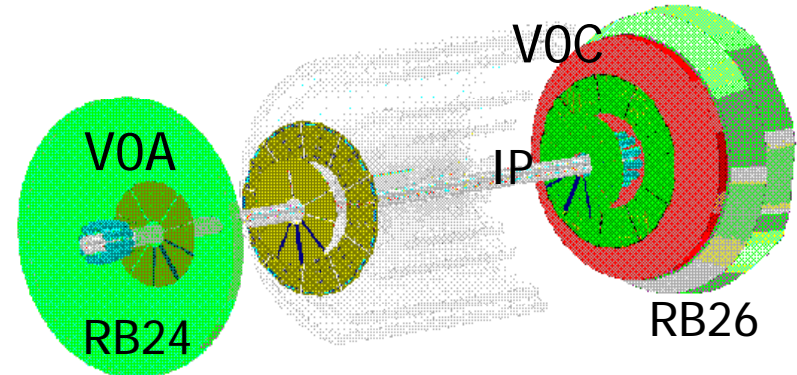
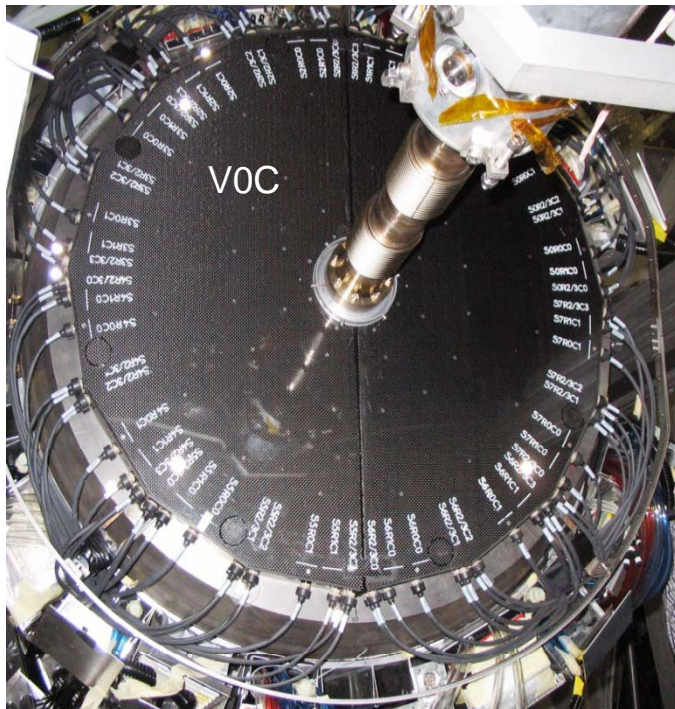


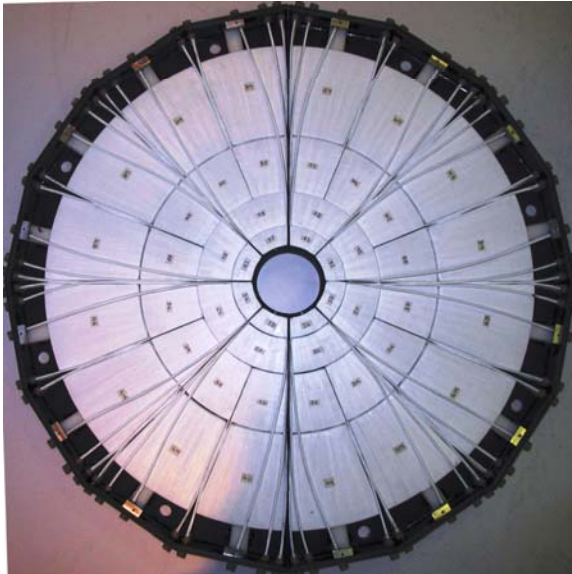
Integrating "new" detectors into HLT

Example: V0



Integrating "new" detectors into HLT

Two discs of segmented scintillators readout by 48 PMTs



1. Pre-calibration

- 1. Pre adjustment of High Voltages for a similar gain for channels**
- 2. Pre adjustment of timing between L0 signal and EoI (Event of Interest)**

2. Commissioning with pp collisions

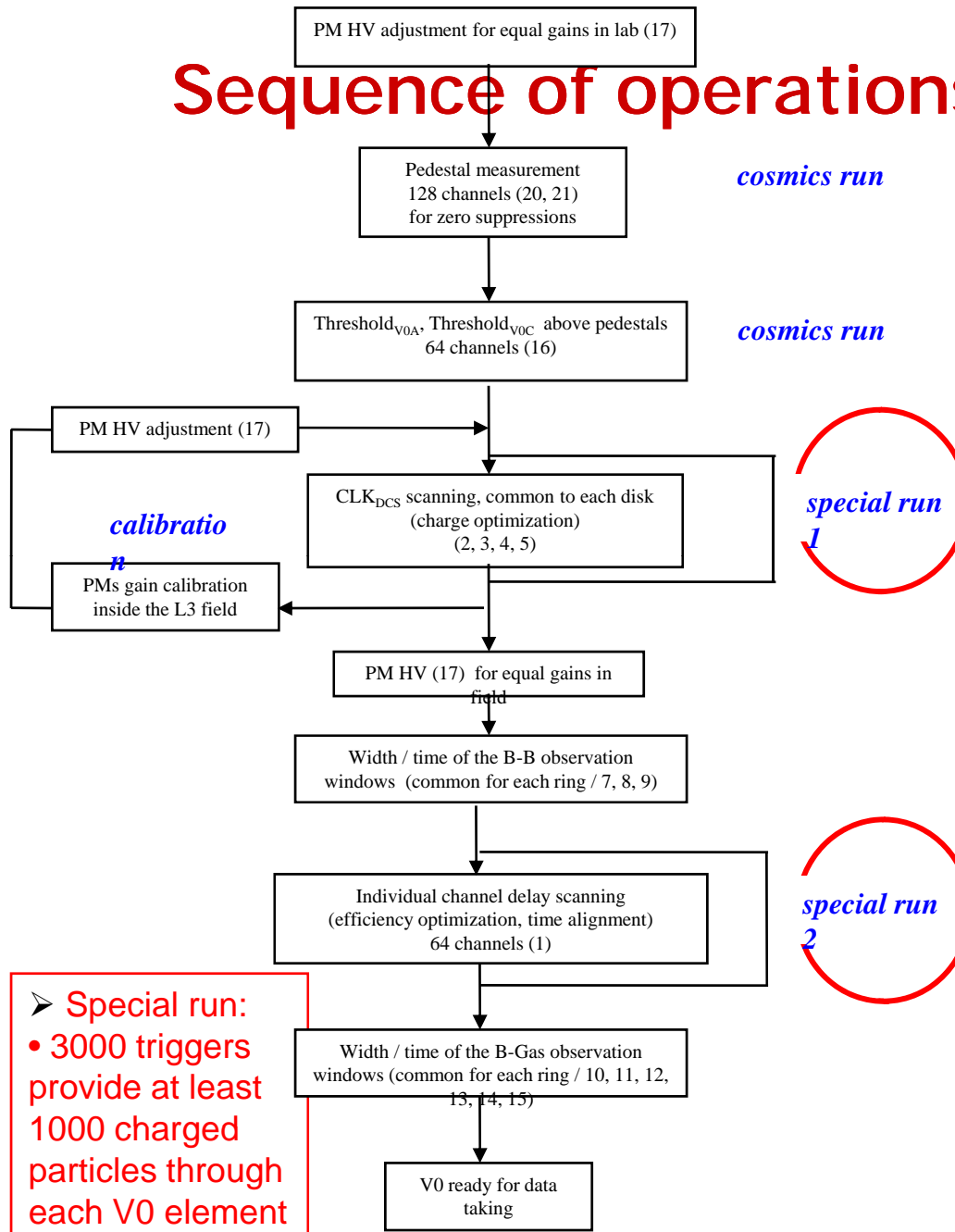
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Integrating "new" detectors into HLT

- Adjustments with pp collisions for a precise and final setting of the system:
 - charge integration gates (common to each disk) and 64 channel calibrations in situ
 - individual discriminator signal within time windows (common to each ring)
- Special runs necessary:
 - 3000 MB triggers provide 1000 events per channel for one gate/signal position
 - 20 gate positions and 3 HV values should require 180000 triggers
 - 20 individual delay steps and 3 different widths should require 180000 triggers

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Sequence of operations before data taking



➤ Trigger ACORDE

➤ Set-up from pedestal values

➤ **Integration gates:** trigger BB (25 ns windows)

- $(\sum_n Q_n)/n = f(T_{\text{gate}})$ (n number of triggers) as a function of the time position of gates (25 ns width) for events with $\Delta t_{A-C} = 0$ ns
- final T values given for $(\sum_n Q_n)/n = \text{Max}$
- 3-4 HV values between 2200 and 1600 V for the **calibration of channels in situ**

➤ **Time windows:** trigger CTA1 (low threshold)

- $(\sum_n f_{BB}=1)/n = f(\text{delay})$ (n number of triggers) as a function of the delay value of discriminator signals for events with $\Delta t_{A-C} = 0$ ns
- 64 final delay values for $(\sum_n f_{BB}=1)/n = \text{Max}$

➤ Set-up according to BB windows

• trigger BG

Offline Meeting

➤ **Special run:**

- 3000 triggers provide at least 1000 charged particles through each V0 element

April 8, 2008

Integrating "new" detectors into HLT

- Offline analysis takes time
- Can the analysis be done online by HLT?
 - yes
- What has to be done?

| | |
|-------------------------------|--------------|
| – V0 DDL into HLT | - done |
| – CPU power | - available |
| – Infrastructure | - in place |
| – Running offline code online | -> next talk |