



# Short slab test & production in Japan

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# Short Slab Test

- Frederic and Jean-Claude are preparing the transportation of two slabs to Japan
  - Thank you for the effort
- We try to do with the slabs
  - Setup a working bench
  - Calibration by cosmics and radioisotopes ( $^{57}\text{Co}$  or  $^{133}\text{Ba}$   $\sim 100$  keV  $\gamma$ )
  - Retriggering analysis
  - S/N ratio

# Target

- Duplication of production line (France/Japan)
  - Compare product quality (PCB etc.)
  - Optimization of production method
    - FEV production
    - Gluing & interconnection
    - Assembly
  - Optimization of PCB etc.
    - Interconnection
- Quick test stand related to slab production
  - Sending slabs between FJ is costly (in money and time)

Closer collaboration  
of Japan-France  
is necessary and desired

# Things to do

- Sensor
  - We plan to buy 20 sensors (for 5 slabs)
- Production of FEV (discussion started)
  - Flatness after cabling BGA etc. is important
- Gluing
  - Investigating glue dispenser
  - Dispenser robot also for alignment
- FPC production
- Assembly
- Test

Target: making some working slab  
to be sent to 2018 TB

# FEV production

- Start to discuss with manufacturer
- No problem with the board flatness
  - Without cabling
  - Cabling may cause distortion - checking at fab
  - Fab has 3D measuring facility - can be checked
- Quote requested (not yet obtained)
  - ~ Several 1000 EUR including mask
- Question: should be go with the current design or wait for the new design (until when?)

# Interconnection

- Discussion with manufacturer
  - One port: FPC buried in PCB
    - Similar to SMB?
  - The other port: thin FPC connector
- Should be tested after the first production of the identical FEV/SMB



# Gluing

- We will buy a dispenser in Kyushu with other projects
  - ATLAS pixel upgrade
  - Muon g-2/EDM in J-PARC
- Investigating several providers
  - Musashi engineering
  - Iwashita engineering
  - Cost: 12-20k EUR (dispenser + robot)
- Target
  - Experience of assembling slabs (glue + alignment)
  - Optimization of glue etc.



# (Optimistic) Schedule

- First FEV with dummy BGA: Oct.-Nov.
- First FEV with (1) SKIROC2: Nov.-Dec.
- Dispenser arrival: -Dec.
- First assembly & test: Jan.-Mar.
- Production: -May