

ISR workflow

Tests status

CMS week March 06, DT session

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Reception status



- **Chambers@ISR = 98 (92 + 6 spares)**
(out of 117 still to be installed)

- No shipments received since last muon week:

- Next shipments, expected dates:

- Torino: 4 MB4, March 17

- **CIEMAT: 5MB2, March 20 to 26** ← Last! |||

- Torino: 4 MB4, April 10

- **Aachen: 8 MB1, April 26** ← Last! |||

- **Legnaro: 5 (??) MB3, May 8** ← Last! |||

- Torino: 4 MB4, May 10

- **Torino: 4 MB4, May 17** ← Last! |||

- **Only a few MB2 chambers left for HVB replacement (mostly spares). This last replacement round started yesterday**

- **Last alignment round: ~beginning of May, all chambers should be on time.**



Tests status & news

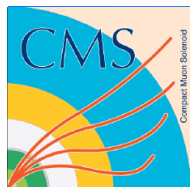


Since last report (07/02/06)...

- Finished MC insertion & tests for last installation
- Chambers under HV all along the ISR (4 CAEN 127 HV systems, 5 CAEN 1527) . 40 + 20 chambers
- **Next chambers to be installed: feet chambers for YB+1, last before MT**
- Additional scaler / HV systems have been set up at the ISR (coming from LNL).
- “2LPPs” just delivered from CIEMAT: Special patch panels for a better identification of HV problems.

Currently...

- Dressing in progress
 - First installation round after MTCC will include negative upper sectors for **YB0** (2 sectors, 9 chambers)
 - The installation order after this round is not yet 100% defined. Either we'll continue installing in SX5 on **YB-1** (8 sectors, 29 chambers) or we'll move to UX5 installing horizontal sectors of **YB+2** and **YB+1**
- These are the chambers we keep currently under test (finishing dressing, kept under HV, being cosmic tested)
- Coupling with RPCs just started



Chambers status

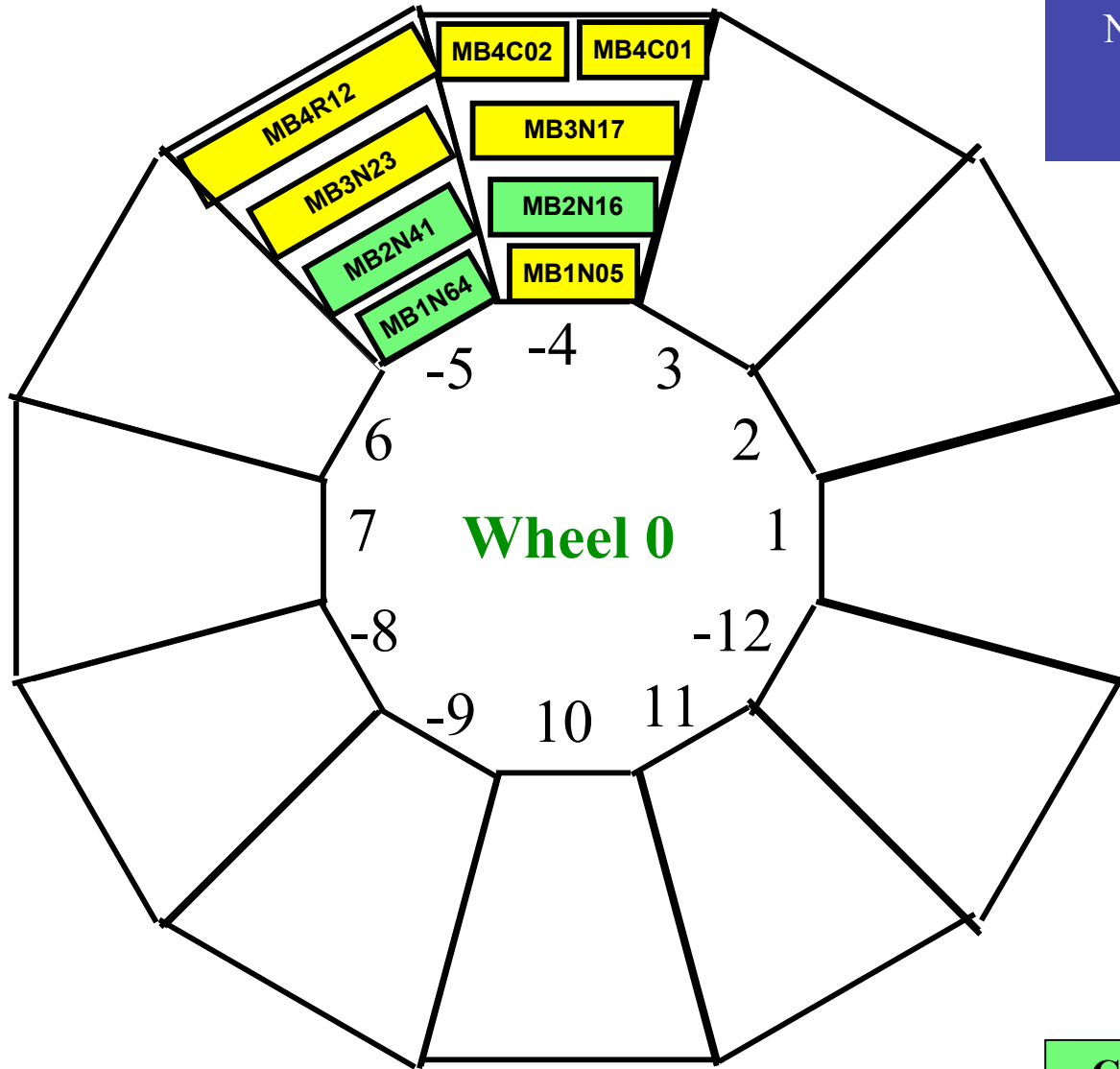


| Type | @ISR (to be installed) | HVB5 (HVBI) | Under test / Tested | HV/Cosm OK | RTI (MC) |
|-----------------|---------------------------|----------------|------------------------|---------------|-----------|
| MB1 | 24 (28) | 24 | 16 | 7 | 1 |
| MB2 | 27 (28) | 18 | 15 | 4 | 0 |
| MB3 | 27 (28) | 27 | 20 | 5 | 3 |
| MB4/1-7 | 5 (17) | 5 | 5 | 5 | 1 |
| MB4/9-11 | 8 (8) | 8 | 4 | 2 | 2 |
| MB4/10 | 0 (0) | | | | |
| MB4/4 | 6 (6) | 6 | 4 | 2 | 2 |
| MB4/8-12 | 1 (2) | 1 | 1 | 1 | 1 |
| Total | 98 (117) | 89 | 65 | 25 | 10 |

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YB0, upper negative sectors



Next installation round right after MT. All chambers already certified

MC coupled. RTI

Certified. Waiting for MC

These chambers are already being coupled to RPCs and stored in vertical position

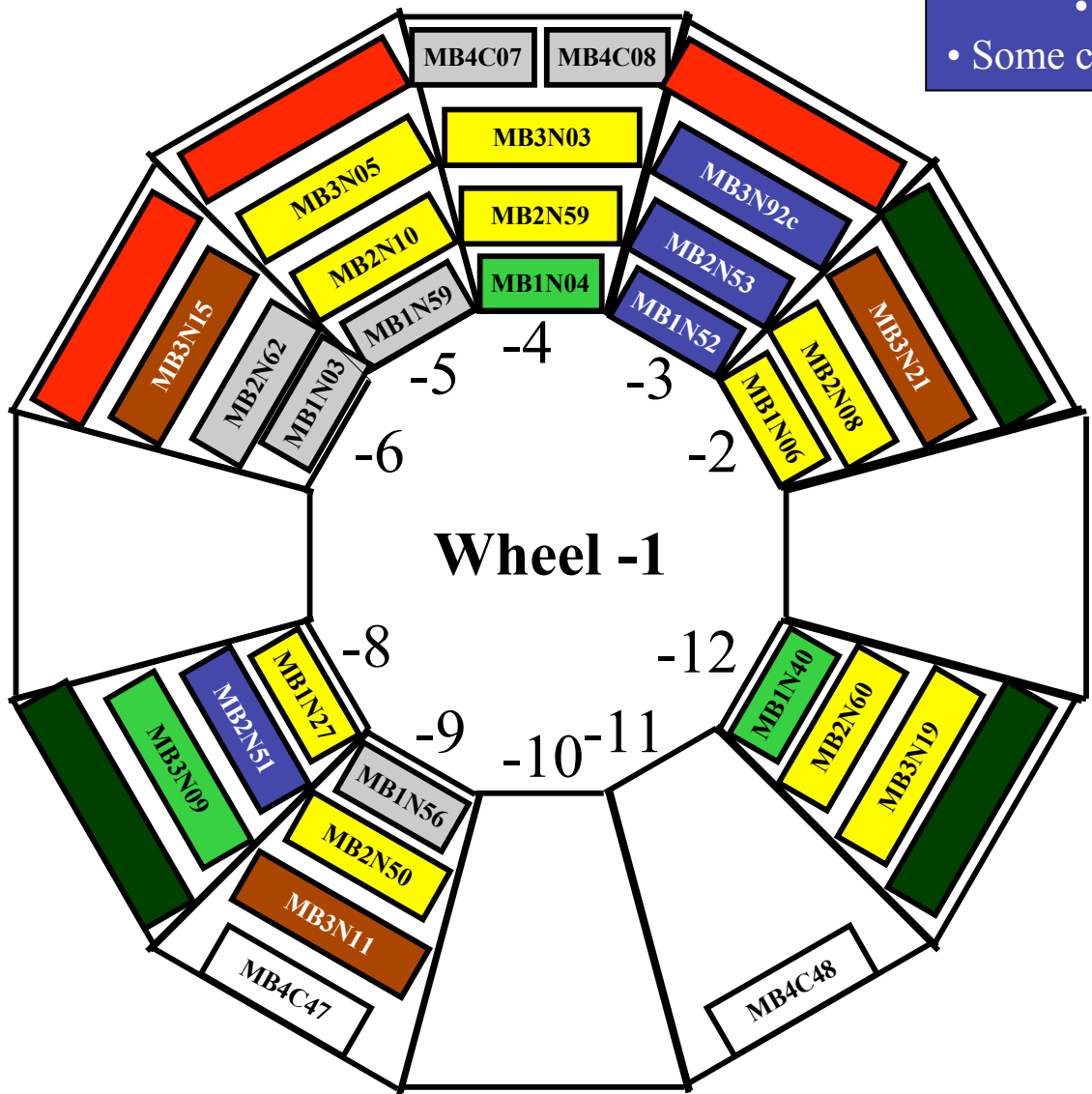
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YB-1, remaining sectors



- Focused now on these chambers
- All chambers (except feet) under HV
 - Cell disconnected MB2C62
- Some chambers extremely painful to repair

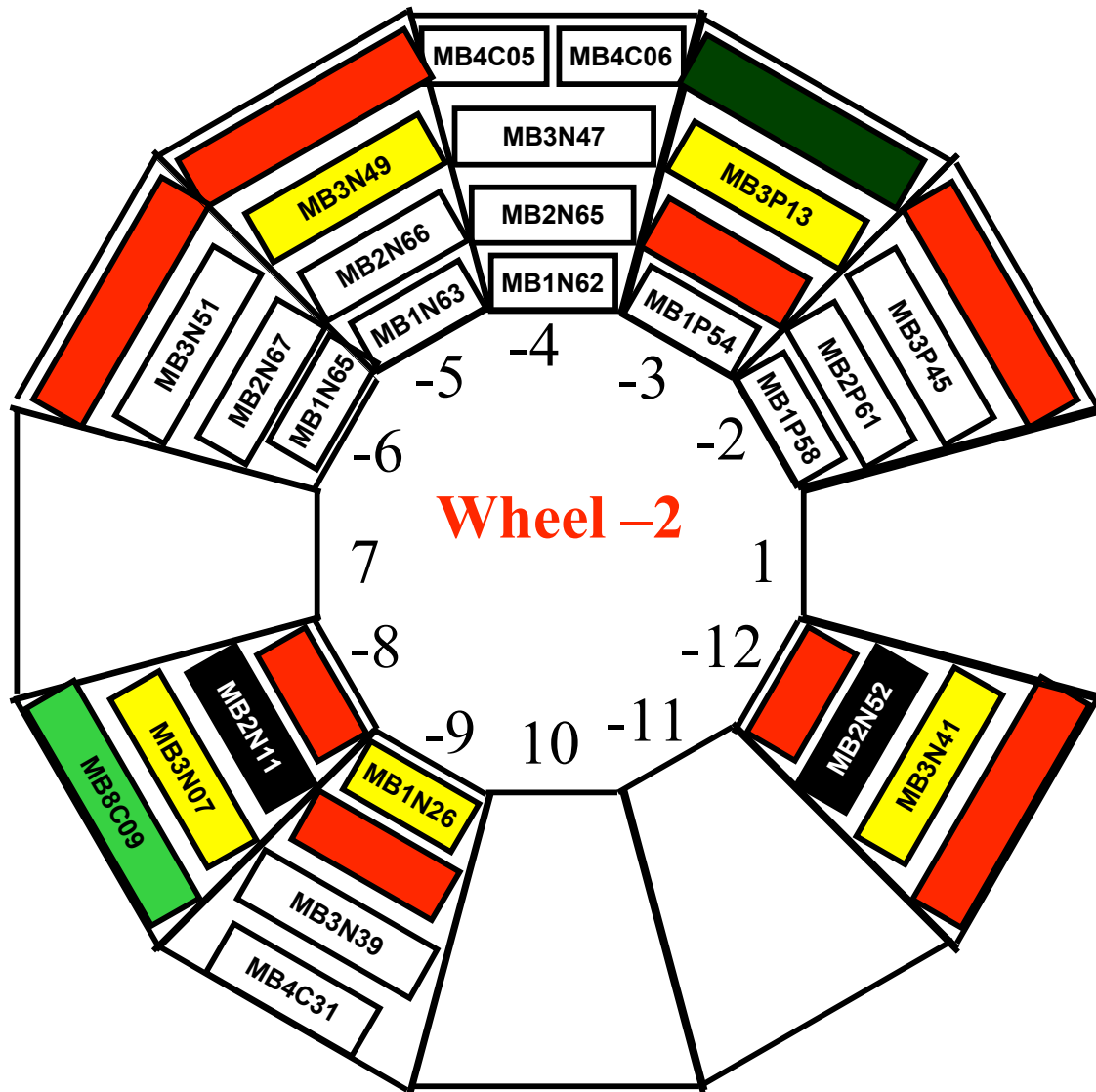


| |
|--|
| Not yet received |
| OFF |
| HV problems |
| To be cosmic tested (1st, 2nd round) |
| To be repaired |
| Cosmics & HV OK, still under observation |
| Ready for MC |
| Installed |

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YB-2, remaining sectors



• As soon as new HV channels are available, chambers for further installation round are turned ON

| |
|------------------|
| Not yet received |
| Old HVBs |
| OFF |
| Under HV |
| Ready to install |
| Installed |

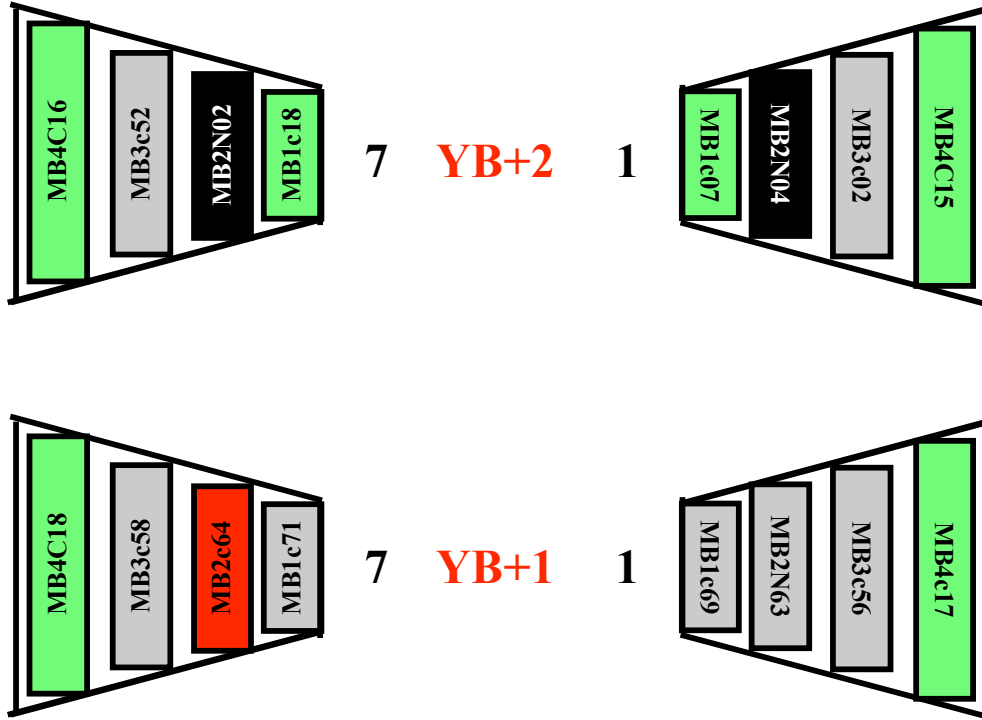
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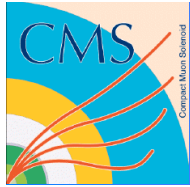
Underground installation



All chambers under HV, very different certification stages



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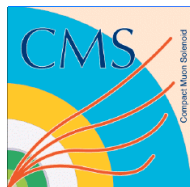
Progress



| Total | @ISR | HVB5 (HVBI) | Under test / Tested | HV/Cosm OK | RTI (MC) |
|-----------|-----------|-------------|---------------------|------------|----------|
| 06.Dec.05 | 128 (168) | 119 | 63 | 40 | 30 |
| 16.Mar.06 | 97 (117) | 90 | 65 | 25 (+51) | 10(+51) |

36 chambers certified since then, 31 MC installed, 12 weeks... 3 chambers/week

- We have increased the rate from 2 to 3 chambers/week. However:
 - During these last month, progress has been considerably slowed down due to a strong shortage in manpower availability (installation).
 - Many chambers were quite advanced (for last installation).
 - Chambers for YB0 S4 and S5 were (by chance) extremely quiet.
 - We're experiencing many HV problems in last batch of chambers (YB-1), they are old chambers. This will (probably) decrease the rate during next weeks.



Manpower issues



• ISR crew: Physicists/Engineers:

- Chamber tests: JPP, M. Fernandez, A. Benvenuti (1/2), M. Chamizo (1/2), M. Cordero (just arrived)
- MC tests: F. Gonella, M. Nervo, G. Masetti, A. Perrotta, T. Rovelli...
- M. Giunta, P. Giacomelli (HV system)

• Technical staff:

- S. di Vincenzo (installation)
- J. M. Ahijado (just came back)
- V. Caffaro / V. Giordano (coupling, SX5 work)
- G. Fetchenhauer (Gas, SX5)
- D. Francia (CIEMAT)
- Shorter periods:
 - S. Schulz / H. Frohn (Aachen)
 - Eventual help from installation team
- IHEP: Feng He, rest left weeks ago.



Manpower issues



So far only scaler / HV system from LNL + CIEMAT p. panels. Needed:

- Gas purity monitors
- HV modules
- Components

Mauro & David Francia arrived yesterday
Jose Miguel, last week
Expert IHEP technicians left
No reinforcement at the ISR during installation



Requirements



- What is required to keep the tests up-to-date:
 - **MATERIAL** for reparations: Please send all remaining material from the sites to ISR.
 - **MANPOWER**: one more person working at the ISR is required to help us taking care of several tasks:
 - *HV monitoring, reports*
 - *Cabling tests*
 - *Cosmic data checks*
 - *Overpressure measurements*
 - *Reparation (if expert)*

For the future, only physicists working **fulltime** at the ISR will be Marcos & myself (Alberto, Maria, Franco...).

Whoever can help us doesn't have to be an expert (although experience is required), and can be organized in weekly shifts.

- **LUCK...**

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06/12/05

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Perspectives



- Progress during last months as foreseen, but it required extra effort from us (no technicians available at ISR to help for tests & reparations for around 1 month...)
- Since less than a week the ISR crew increased. We hope we can speed up in the future, provided the full crew is working there full time. Additionally, since most of the chinese crew (experts in cabling / MC installation) are not here anymore, new people will have to be trained for these tasks.
- Still: 90 chambers to be certified, at the (optimistic) rate of 3 chambers/ week, it makes a total of 7.5 month (end October)... not considering holidays, installation, additional problems...
- **FUNDAMENTAL** to reinforce the ISR crew during installation periods and holidays.
- *We have three months less.*

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