

STATUS OF THE 14 MB2 CHAMBERS AT CERN

- MB2 (1) Tested at GIF in october 2001. Used for trial installation at P5 (sitting now in the yoke)
- MB2 (2,3,6,13,14) Tested at ISR: Gas + Cosmics
- MB2 (4) Currently under cosmics tests
- MB2 (5) To be tested with cosmics
- MB2 (7,8,9,11,12) Under long term HV tests at ISR
since beginning of August 2002
- MB2 (10) ALL HVBs replaced by new ones
Tested with cosmics
Included in the LT HV tests

COSMIC TESTS

A visual check of all individual time boxes is very useful to identify and fix certain problems

- ✿ Disconnected I-beams

- ✿ Identify currents

Additionally tests allow measurements that could not be done in Madrid

- _1 - _2 alignment

- Signal propagation along wire

- ☺ Some initial problems could be fixed

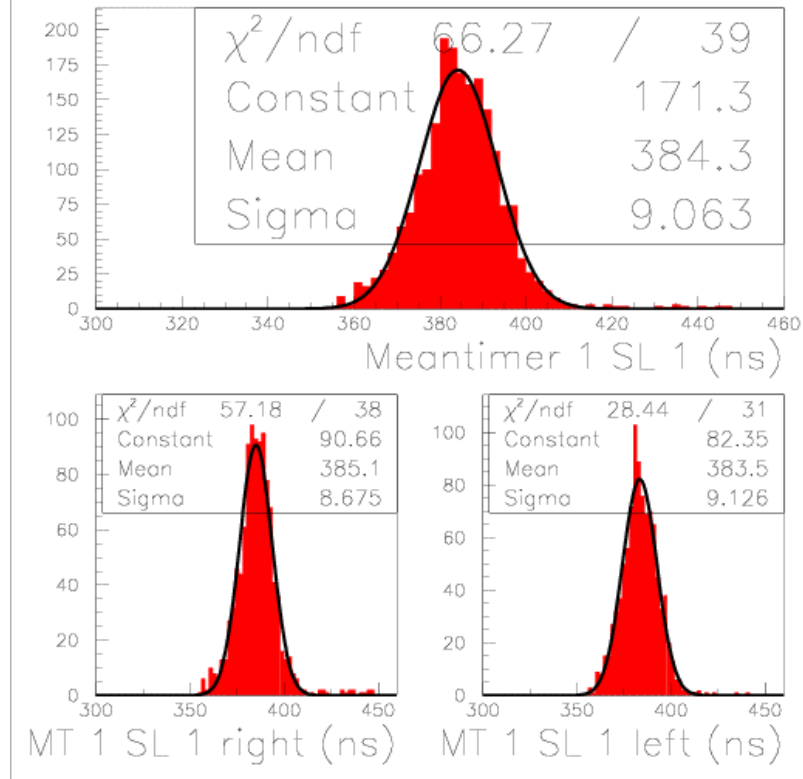
 - (by replacing wires, plugging in disconnected cables, ...)

- ☹ A few new disconnected channels

 - (mainly due to sparks on strips)

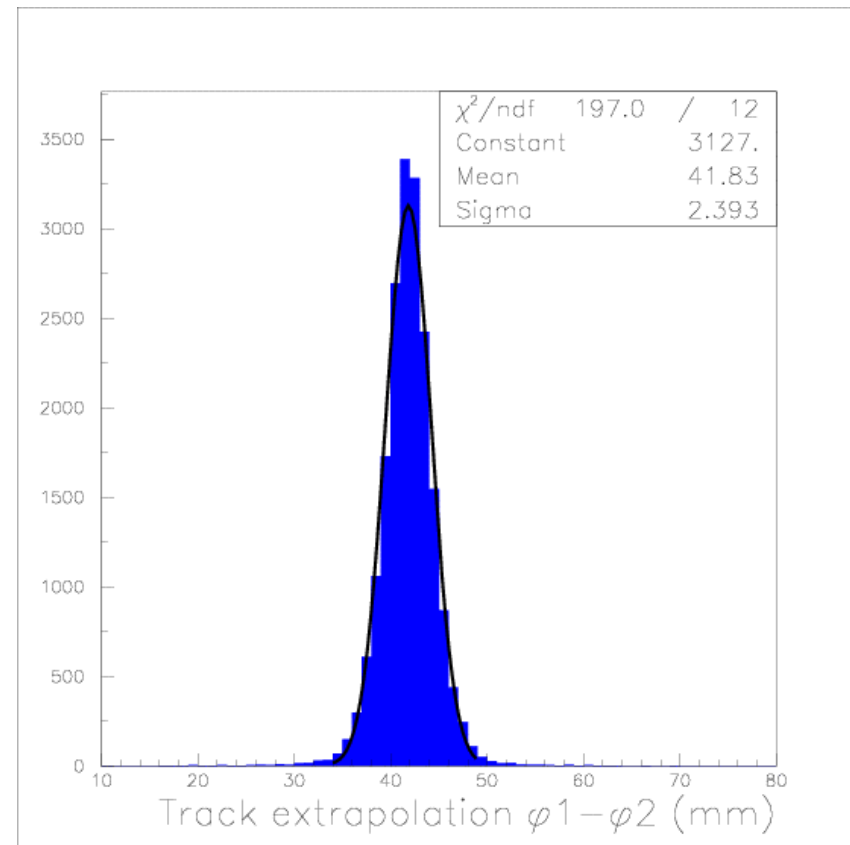
COSMIC TESTS DATA

Chamber 6 data



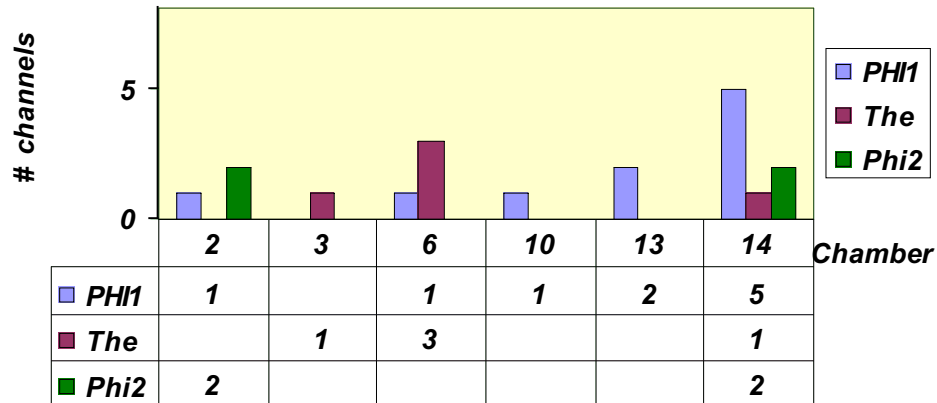
In a first step, results seem satisfactory

Off-line analysis not yet performed in all chambers

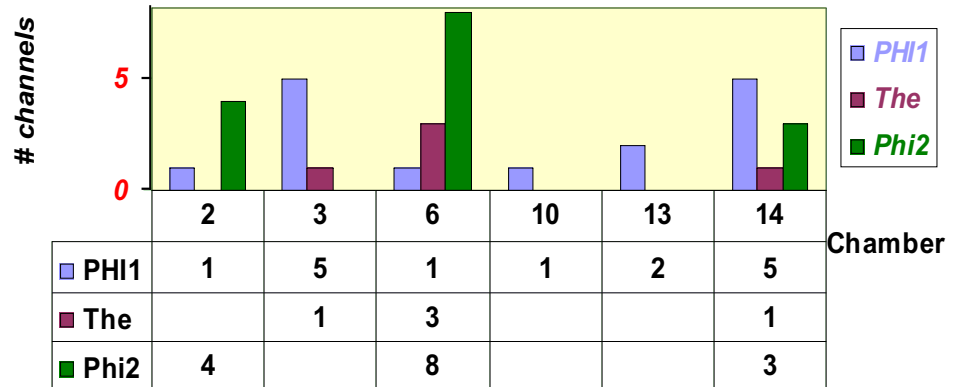


DISCONNECTED CHANNELS OF MB2 CHAMBERS AT CERN

Strips/wire disconnected at Madrid



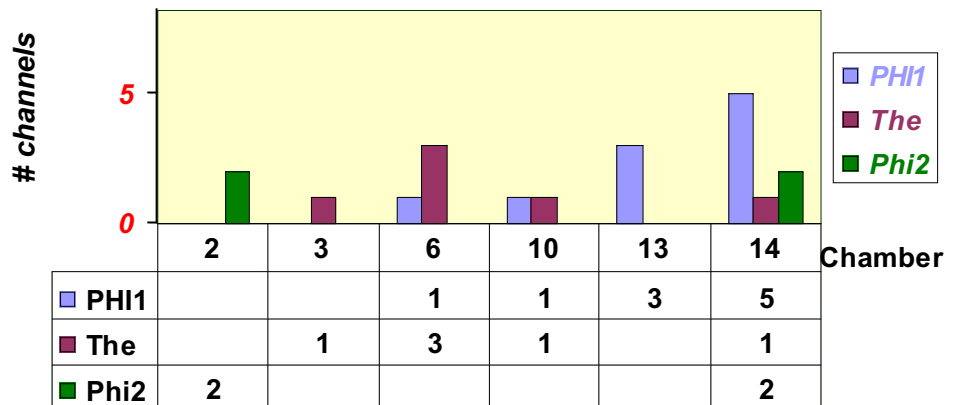
Strips/wire problems at ISR(I)



Problems mainly due to strips

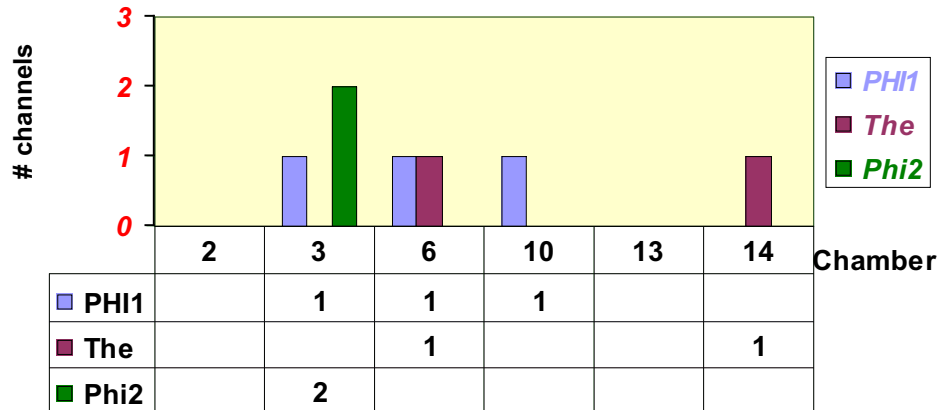
Some problems during transport could be cured at ISR

Strips/wire disconnected at ISR(II)

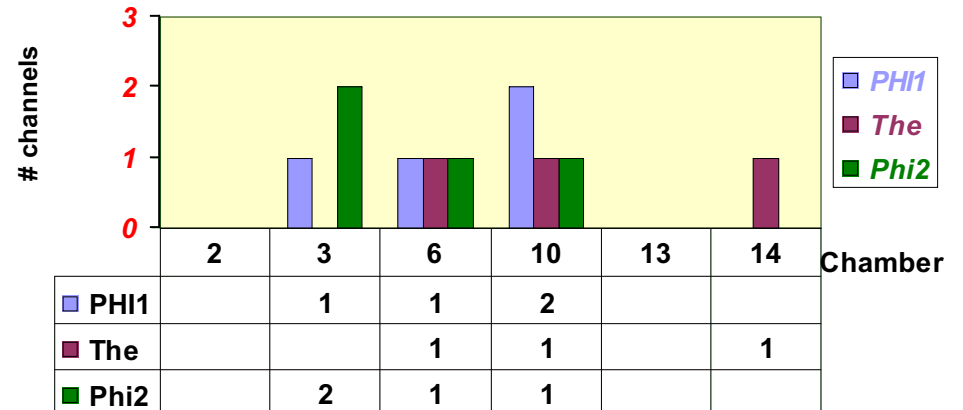


DISCONNECTED CHANNELS OF MB2 CHAMBERS AT CERN

Ibeams disconnected at Madrid



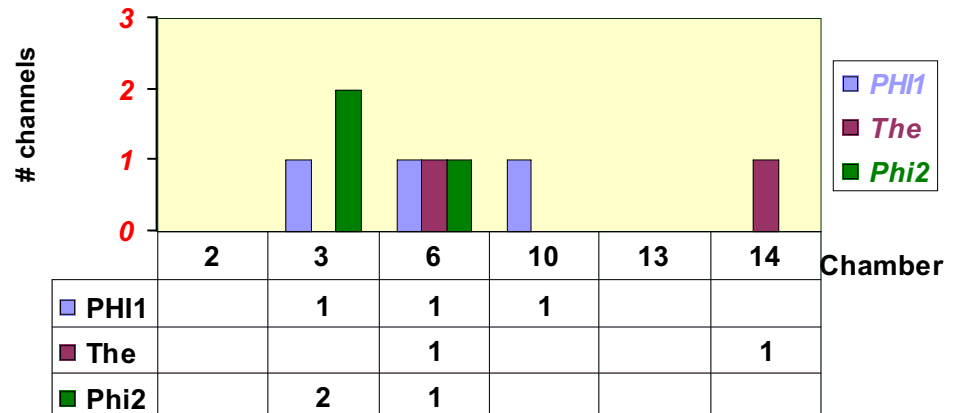
Ibeams problems at ISR(I)



Small number of problems
in Ibeams

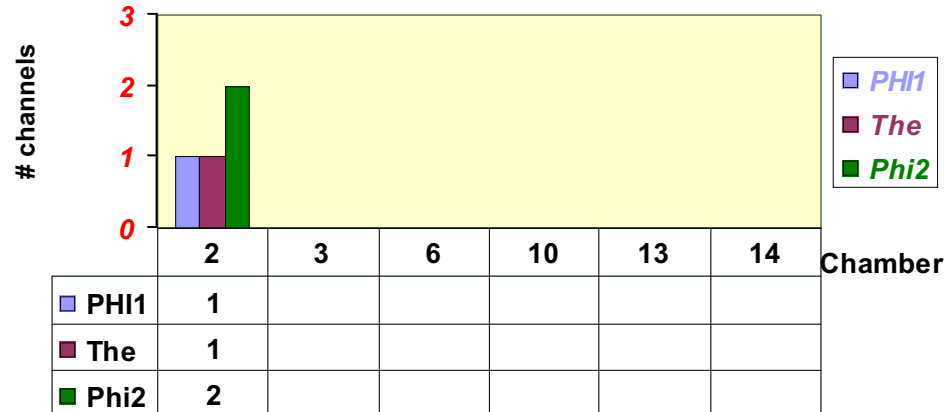
Some of them due to disconnects
during transport were cured at
ISR

Ibeams disconnected at ISR(II)



DISCONNECTED CHANNELS OF MB2 CHAMBERS AT CERN

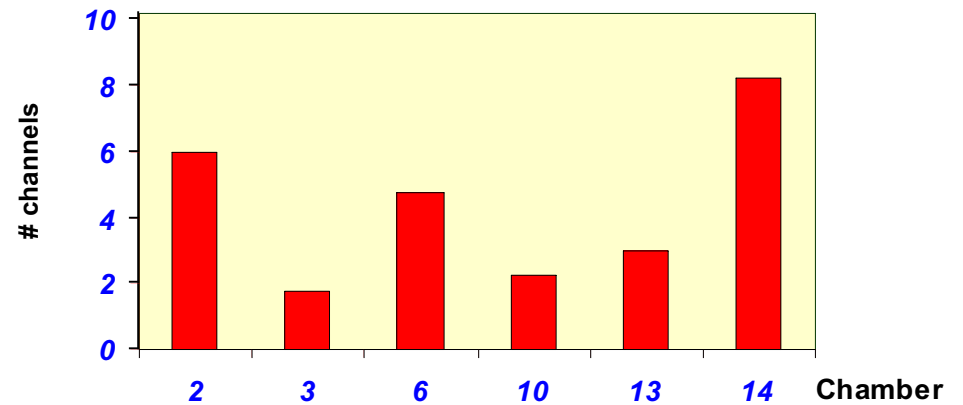
FE dead channels at ISR(II)



Some signal connectors were not OK at the beginning

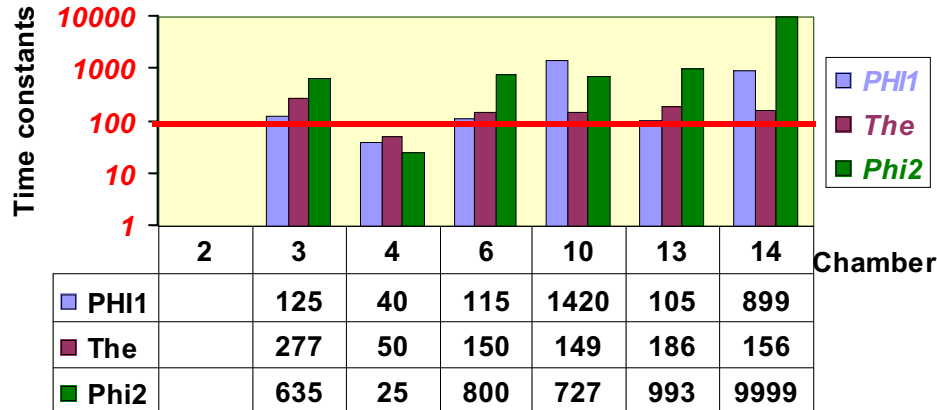
Number of dead channels smaller than 1% in all cases

Final total number of dead channels

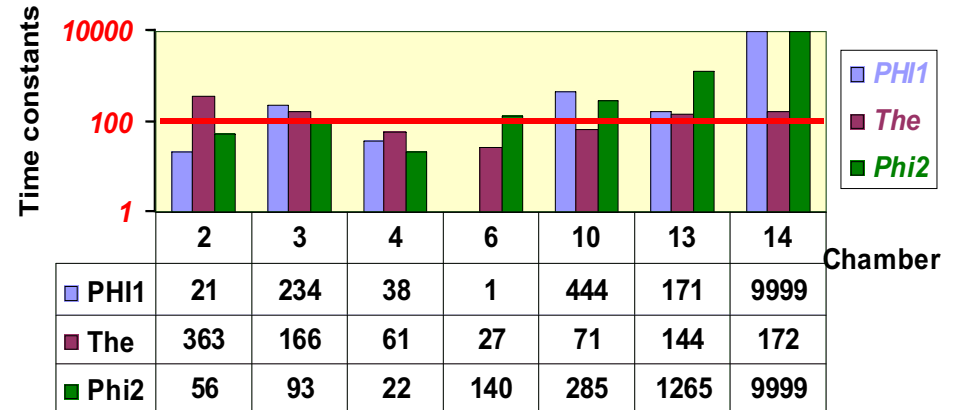


GAS TESTS PERFORMED TO MB2 CHAMBERS AT CERN

Gas Tightness at Madrid



Gas Tightness at ISR(I)

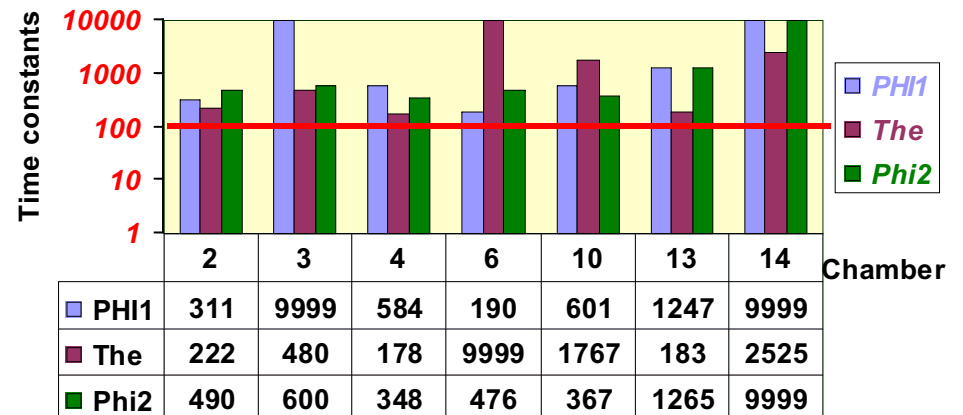


Minor changes due to transport

Final version gas fittings used
(except 1/8, HV side)

Improvement at CERN of time constants in some chambers
(replacement of bad O-rings)

Gas Tightness at ISR(II)



LONG TERM HV TEST

5 Chambers with "suspicious" bad HVBs under HV since:

- 25/07/02 for C8 and C7
- 6/8/02 for C11 and C12
- 9/8/02 for C9

1 HV channel supplies a whole chamber

HV set to 3.6/1.8/-1.2 kV

Stable during ~1 _ month



LONG TERM TEST PROBLEMS

- Two HVB (C9) failed when ramping up HV for the first time at ISR
- Two more HVB (C7) failed after 14 and 15 days of operation resp.

THESE 4 HVB PRESENT OBVIOUS DAMAGES

(replaced by suspicious ones)

- One more HVB (C9) replaced after 13 days

PROBABLY NOT A PROBLEM OF HVB ITSELF

- Afterwards, the situation became stable for ~1 month
- ~10 days ago we started ramping down/up again HV in ALL LT test chambers twice a day. Last Saturday we gave up

1 more HVB *died* yesterday during the night

CHAMBER MB2-10

Several HV problems found at ISR arrival

* 2 HVB damaged at first HV ramp up *

● At the beginning of September ALL HVB were replaced with ones belonging to the new set

✚ It took ~3 working days of trained people

✚ Not important problems (just 2 Ib not properly connected)

● Chamber 10 tested with cosmics

Problems with humidity

● After cosmic tests C10 was added to LT HV test

ONE HVB FROM THE NEW SET GOT DAMAGED !!!!

SUMMARY

✓ 7 MB2 chambers have been tested (cosmics+gas) in less than 2 months

☺ Several problems fixed thanks to cosmic tests

☺ All time constants improved (above 120')

☹ 1 I-beam and 2 cells disconnected: problems derived from transport, mainly in strips

✓ Long term test has provided a total of 8 injured HVB (one of them from the new set)

✓ Most of damaged HVB appeared as a result of first days under HV.

✓ After ~15 days the HV situation in chambers seemed to become stable, in spite of HV ON/OFF switches, but...

✓ A new dead HVB has been just found.

