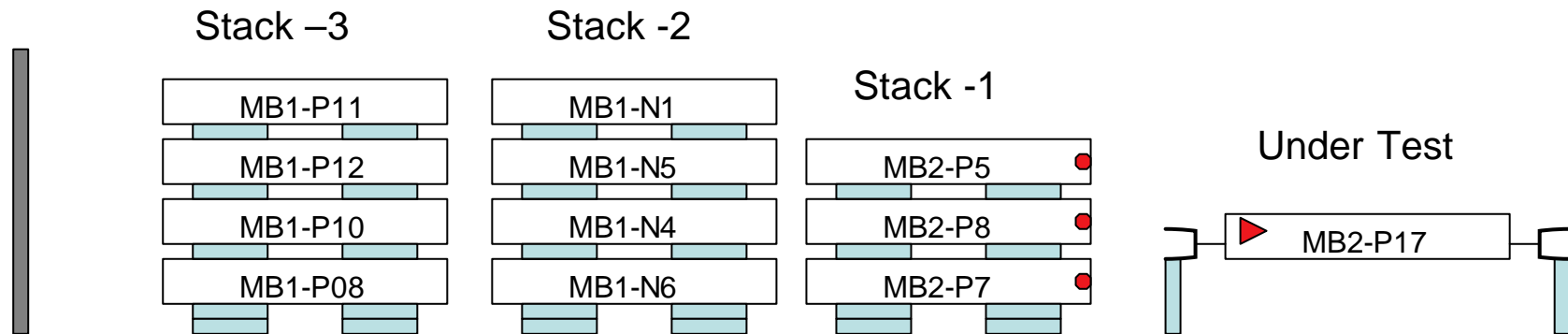


ISR Work Progress Report

CMS Week February 25th 2003

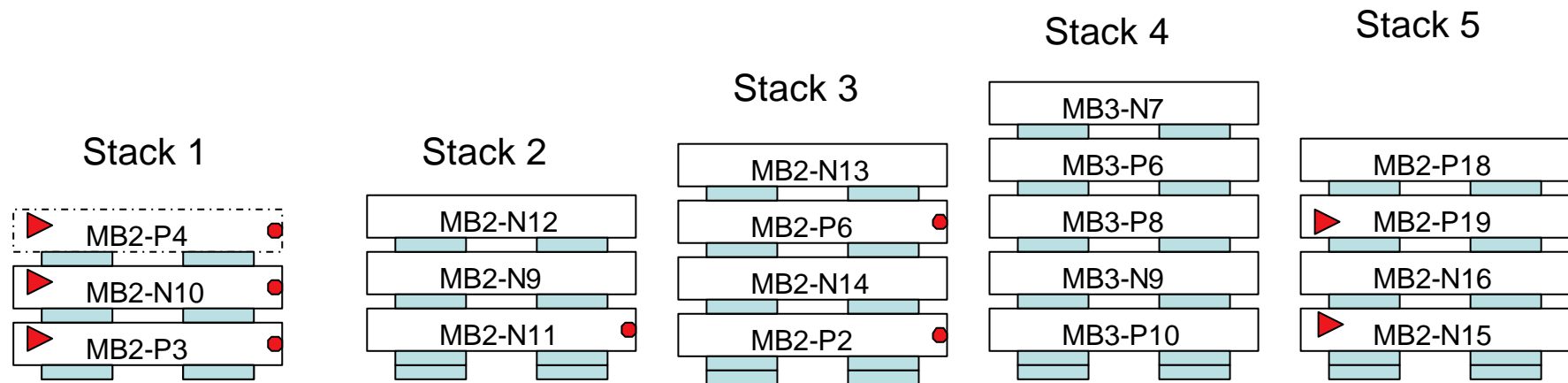
A. Benvenuti
INFN Bologna

Chamber Stacks Layout In I3-I4 Tunnel (part 1)



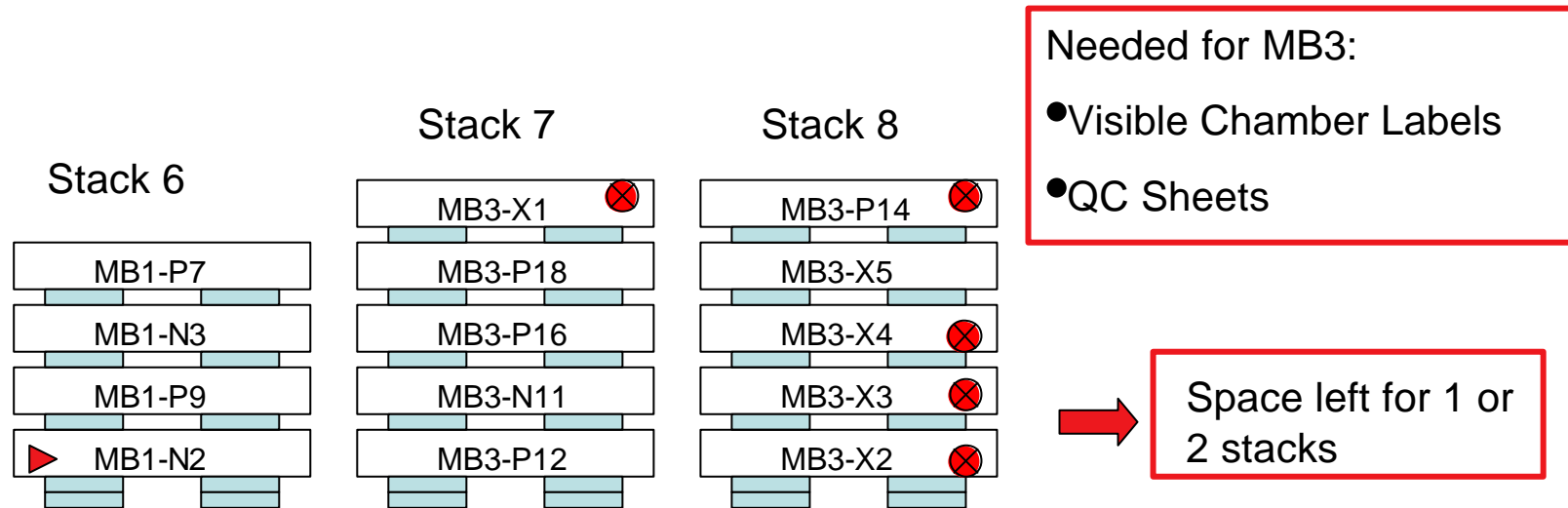
- Stack -3 under HV (P10 and P08 from the same HV channel!)
- Stack -2 under HV
- MB2 P5 SL2 (gas cover changed HV test OK)
- Chambers without RPC pads
- ▶ HV problem (HV Board replaced)

Chamber Stacks Layout In I3-I4 Tunnel (part 2)



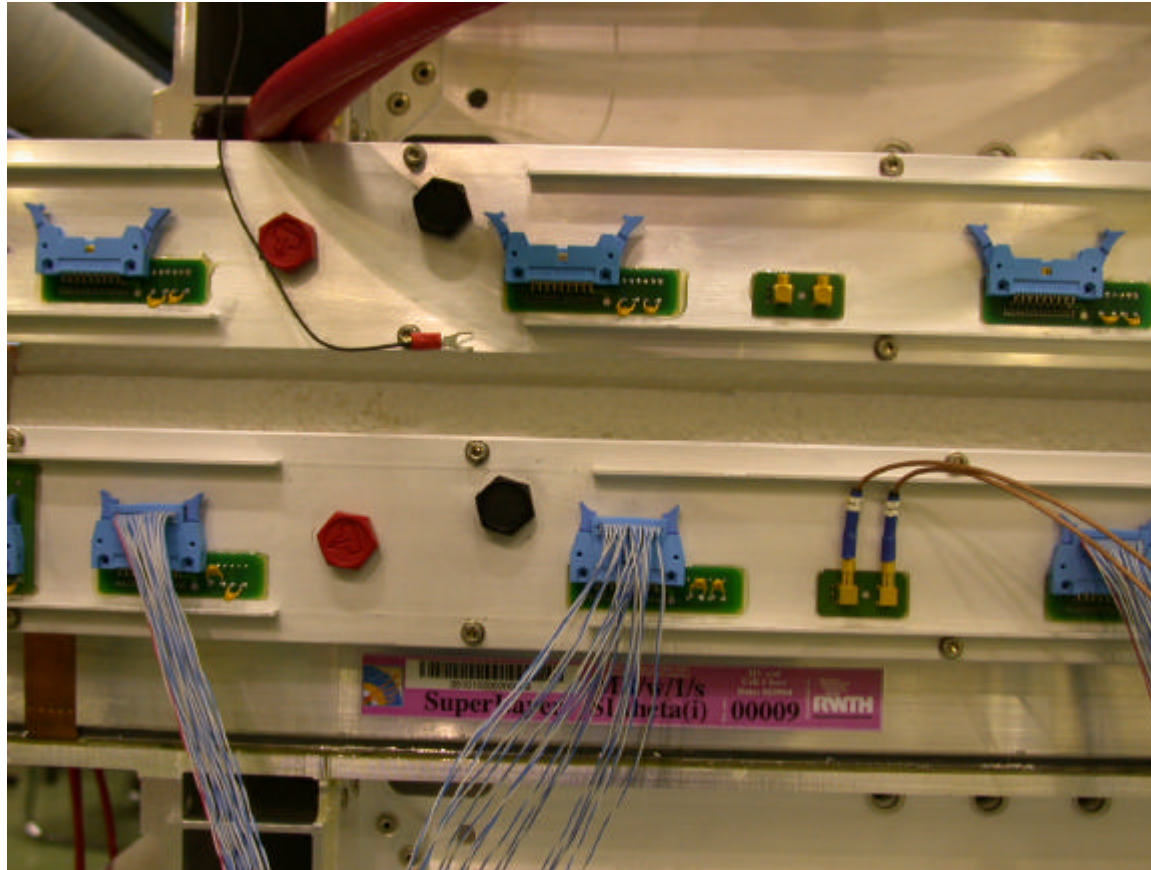
- Stack 1 MB2-P4 on Alignment bench
- Stack 3 MB2-P6 (gas leak in damaged SL PHI 1)
- Stack 4 under HV
 - Chambers without RPC pads
 - ▶ HV problems

Chamber Stacks Layout In I3-I4 Tunnel (part 3)

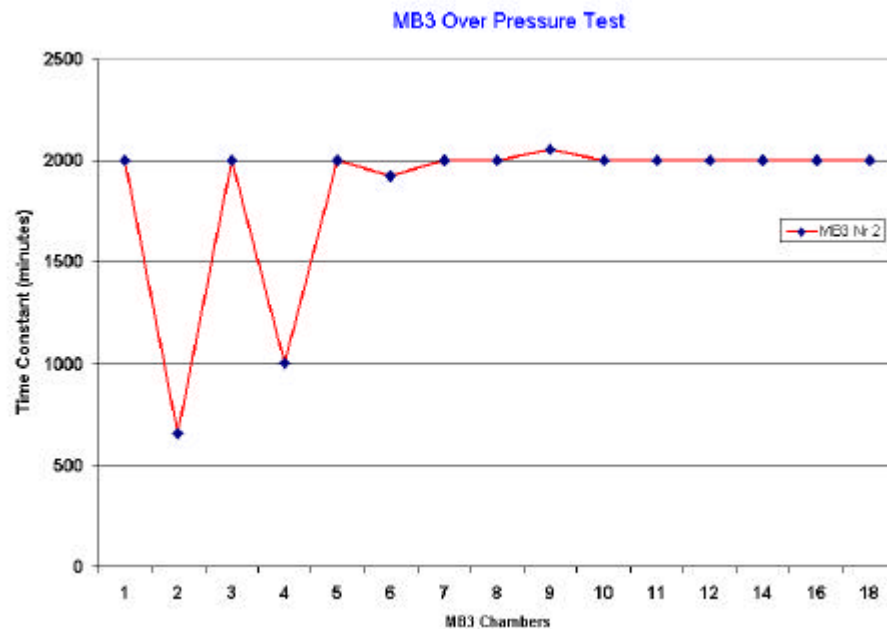
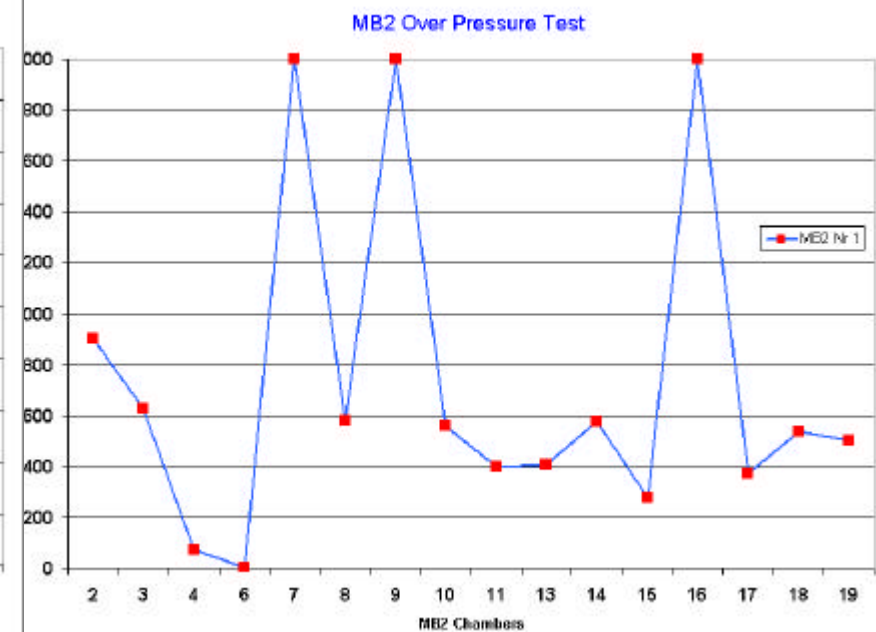
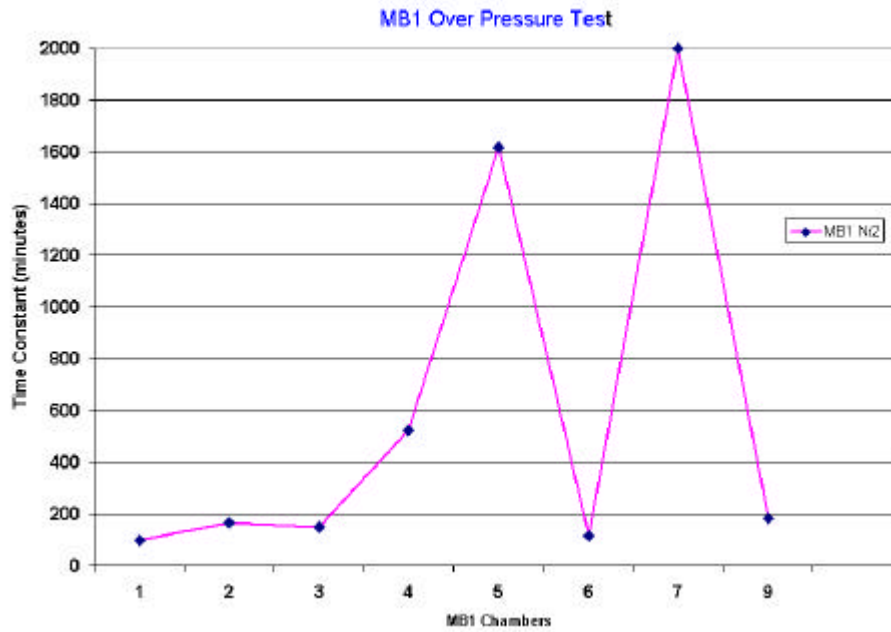


- Stack 6 HV acceptance Test Done, Leak Test Done
- Stack 7, 8 Arrived January 28th,
- Space for chamber handling during unloading and stacking is scarce more time consuming next shipments
- Leak Test Done
- One wrong connector glued to gas cover (bad thread) X2
- 7 gas caps glued to gas cover ⊗
 X1 (Phi2, 2), P14(Tht,1), P4(Tht,1), X3(1 on each SL)

➔ 12 MB1, 18 MB2 +1(SX5) , 15 MB3



- Plastic caps to close gas and cooling in/outlets in Aachen
- avoids use of Teflon tape (dangerous and time consuming)
- should be adopted in other sites



Measurements taken by Gerd Fetchenhauer and Paolo Giacomelli

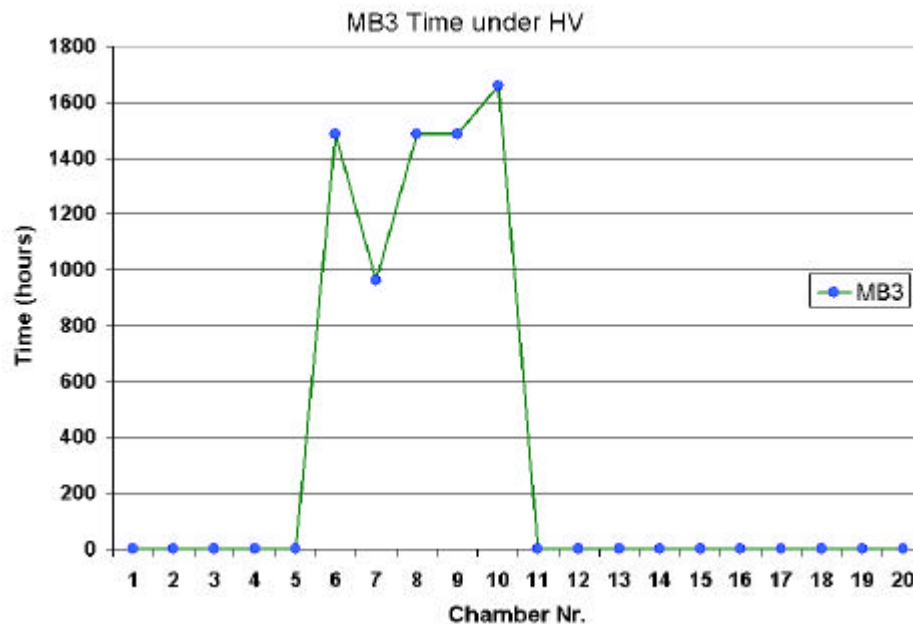
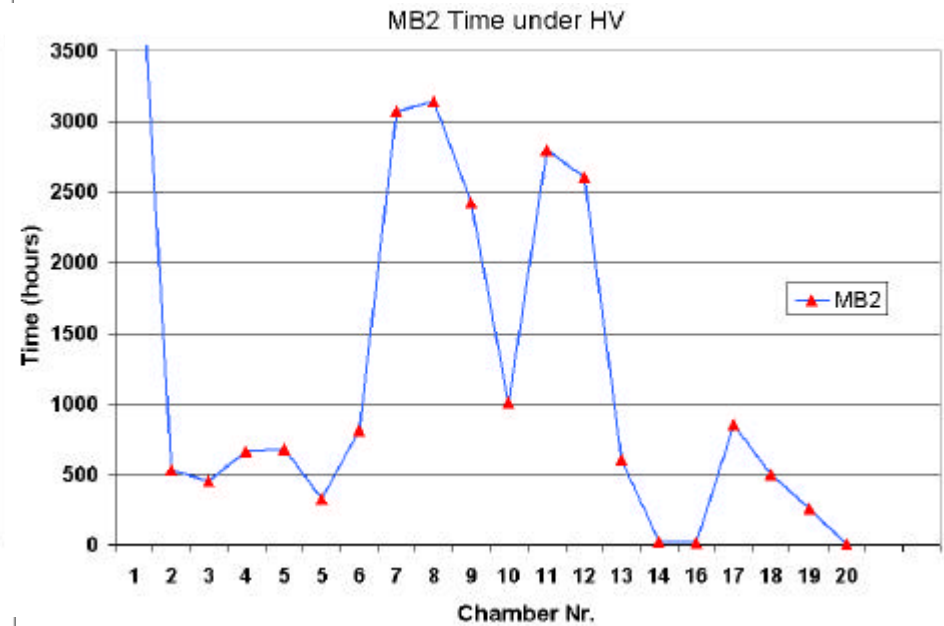
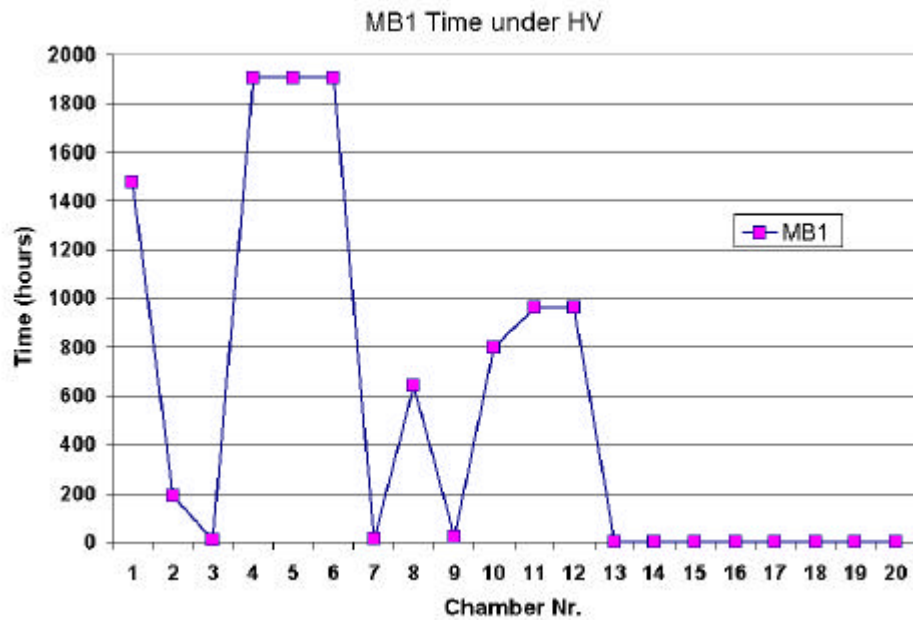
➤ Time constant saturated at 2000

➤ Worst chambers:

MB1-P01 (97 minutes)

MB2-P04 (75 minutes)

MB2-P06 (damaged SL1)



Dead Boards (? =Still inside chamber):

MB2: P07 (2), N09 (2), N10 (2+1 New?),
N11 (1), N10 (2 ?), P04 (1?), N12 (1 ?),
P19 (1 ?), P17 (1 New)

MB1: N02 wire trip

Next:

- HV acceptance of MB3 (10 Chambers)
- Change MB1, MB3 on long term test

ISR Infrastructure

- Cosmic ray stand at present only for MB2 chambers; Table (CIEMAT) needed for MB1, MB3, **February 03 ?**
- Additional DAQ (1SL) and rough trigger used with 8 Phi and 2 Theta MB1 SL, **no bad surprises.**
- Scaler system installed beginning of February, analysis program in progress. **Measure noise rate in a uniform way for all chambers.**
- HV Test: additional configurable HV system, extension of Long Term test to 24 chambers (**26 DT under HV !**) waiting on HS CAEN controller, promised in 2 weeks.
- HV Cable soldering and test station March 03
- **Additional table needed to work on chambers**

Chambers needed for the first Installation
September-December 2003

	DT Type					Total
	Positive	Negative	Left	Right	Unisex	
MB1	7 (6)	5 (6)				12
MB2	7 (11)	5 (8)				12
MB3	7 (7)	5 (8 ?)				12
MB4/9,11					5	5
MB4/10			2	2		4
MB4/8,12			2	3		5
Total	21	15	4	5	5	50

Aachen
CIEMAT



Put MB4 in Production

Chambers needed for the Second Installation
January-March 04

	DT Type					Total
	Positive	Negative	Left	Right	Unisex	
MB1	8	4				12
MB2	8	4				12
MB3	8	4				12
MB4/9,11					3	3
MB4/10			1	1		2
MB4/4					2	2
MB4/1- 3,5-7			1	3		4
MB4/8,12			1	2		3
Total	24	12	3	6	5	50

Priorities at ISR (January-February 03)

- Acceptance Test of new shipments: Over pressure and HV test
- Refurbishing of MB2 chambers:
 - Attach missing docking pads, 10 chambers
 - Fix HV problems/bad boards 5 chambers
 - Mechanical problems 2 chambers
 - Gas connector problems (short threads) 7 chambers
- Noise tests of all chambers (Scalers)
- Cosmic test

➔ As the number of stacks increases all tests becomes more difficult especially DAQ based ones.

ISR Logistics

- Gas extension to other side of entrance ~ ready (Gerd) waiting on pressure reducer.
- Place left for 1 or 2 DT Stacks in the present tunnel, chamber unloading and stacking is becoming more cumbersome and time consuming. **Crane is slow !**
- Work on chambers will be difficult/slow due to the large number of chambers to handle **➡ Test and work tables urgently needed !!**
- Additional storage space for heavy mechanical parts (chamber supports) available as soon as ATLAS moves out (still 9 stacks of 4 chambers on our side)
- Ethernet lines installed, promised to be operational by middle of March.
- Garbage collection, cleaning of the premises is still an issue, done once this year. **Try for once a month clean-up (Austin)**
- **CERN is responsible ONLY for fire protection/alarm for people (i.e. fire escapes) Detector protection is up to the users.**
- **Transport insurance is covered up to 500kCHF but detector handling is NOT insured.**