CIEMAT Status Report

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CMS Week, March 2002

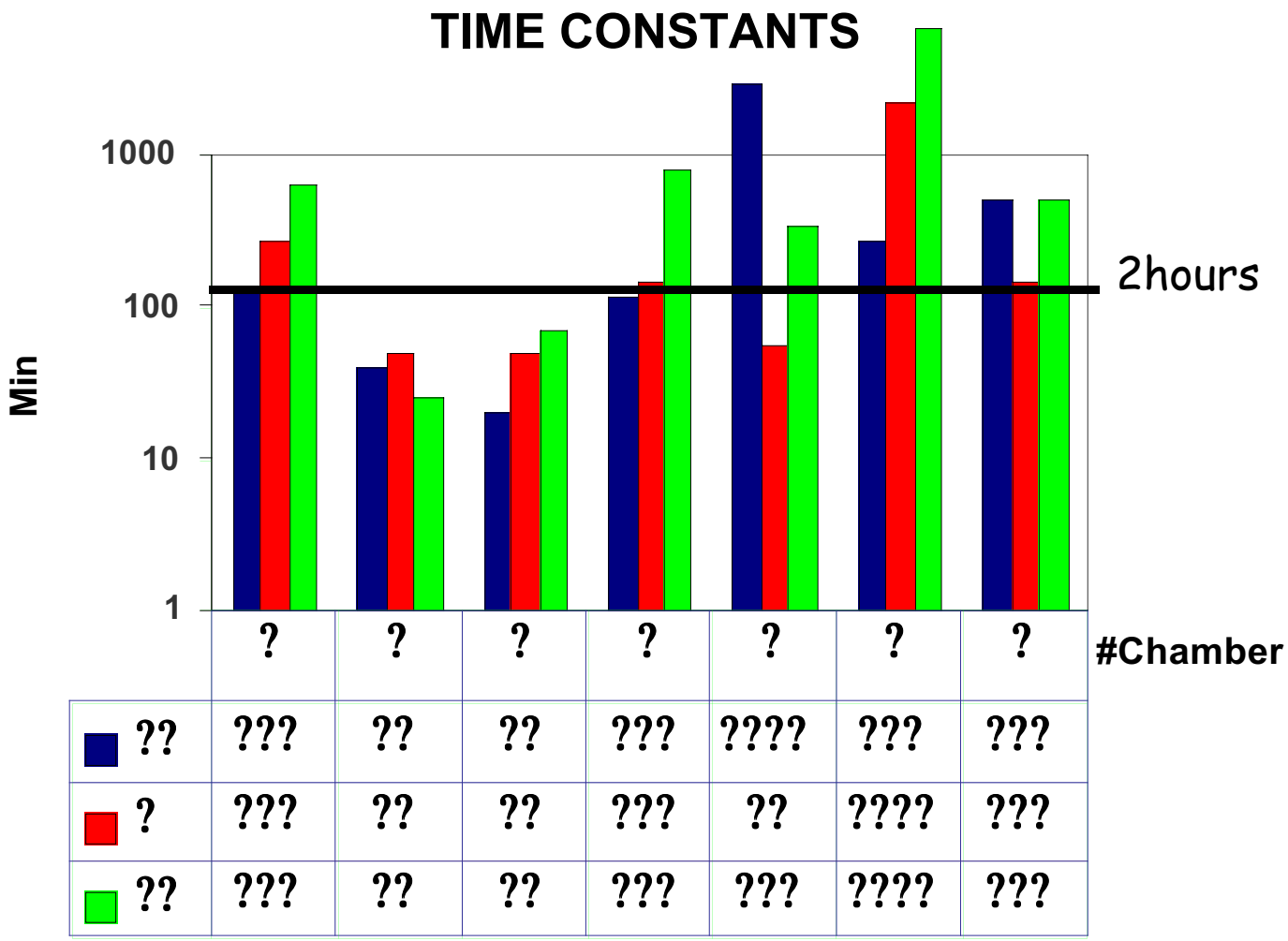
Chamber construction Status

	COMPLETED				
	CERN	CIEMAT	SLs Tested	SLs Mechanically assembled	SLs Being assembled
CHAMBER Serial Number	#1 #2 #3 #4 # 5	#6 #7 #8	#9	#10	#11

Next Shipment to CERN:

Chambers #6,#7,#8,#9,#10 → ~10 April

GAS Tightness



In several SLs the O-ring used was not the correct one

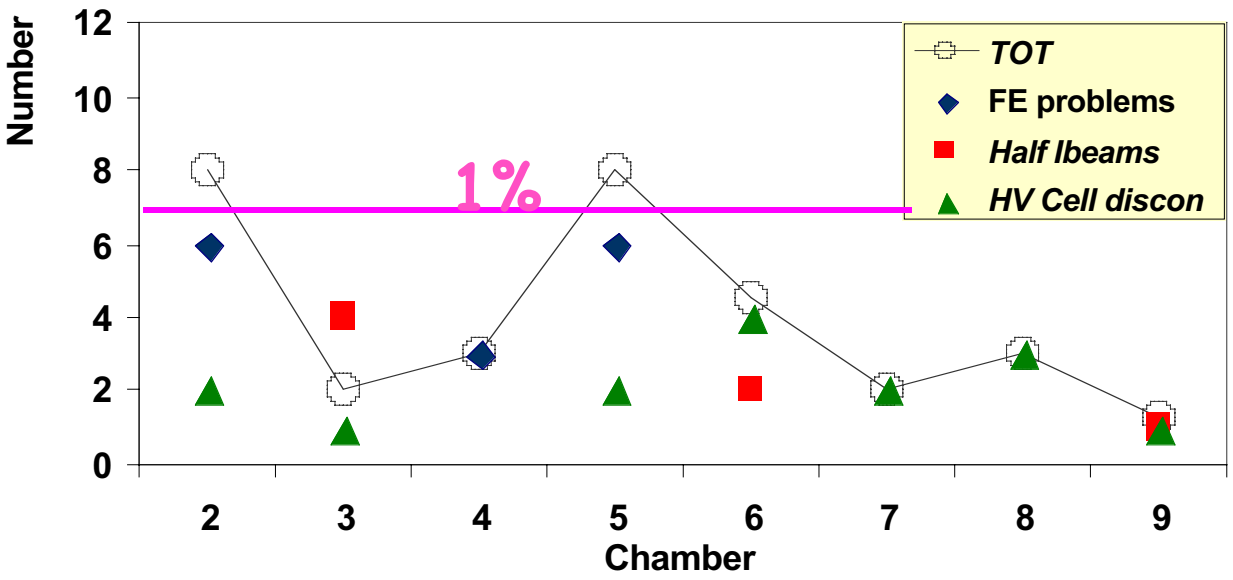
GAS Tightness (II)

Chamber	SL	Time Constant				Comments
		Madrid	ISR1	ISR2	ISR3	
3	P1	125	6.2	250		
	Z	277		166		
	P2	635		93		Probably chamber handling problem
4	P1	40	6.1	38		
	Z	50		61		
	P2	25		20	91	After changing O-ring HV Side
5	P1	20	34.8	18	592	After changing O-ring FE Side
	Z	50		64		
	P2	70		8*	192	After changing O-ring FE Side

ISR1 => Gerd Fetchenhauer
ISR2 => Jesús Puerta (J.P.)
ISR3 => J.P. after some improvements

(*) Due to gas connector

Dead Channels



- Dead Channels < 1%
- Most of HV dead cells due to Sparking Strips.
- NO FE dead channels for the last 4 chambers.

The FE problems were mainly due to:

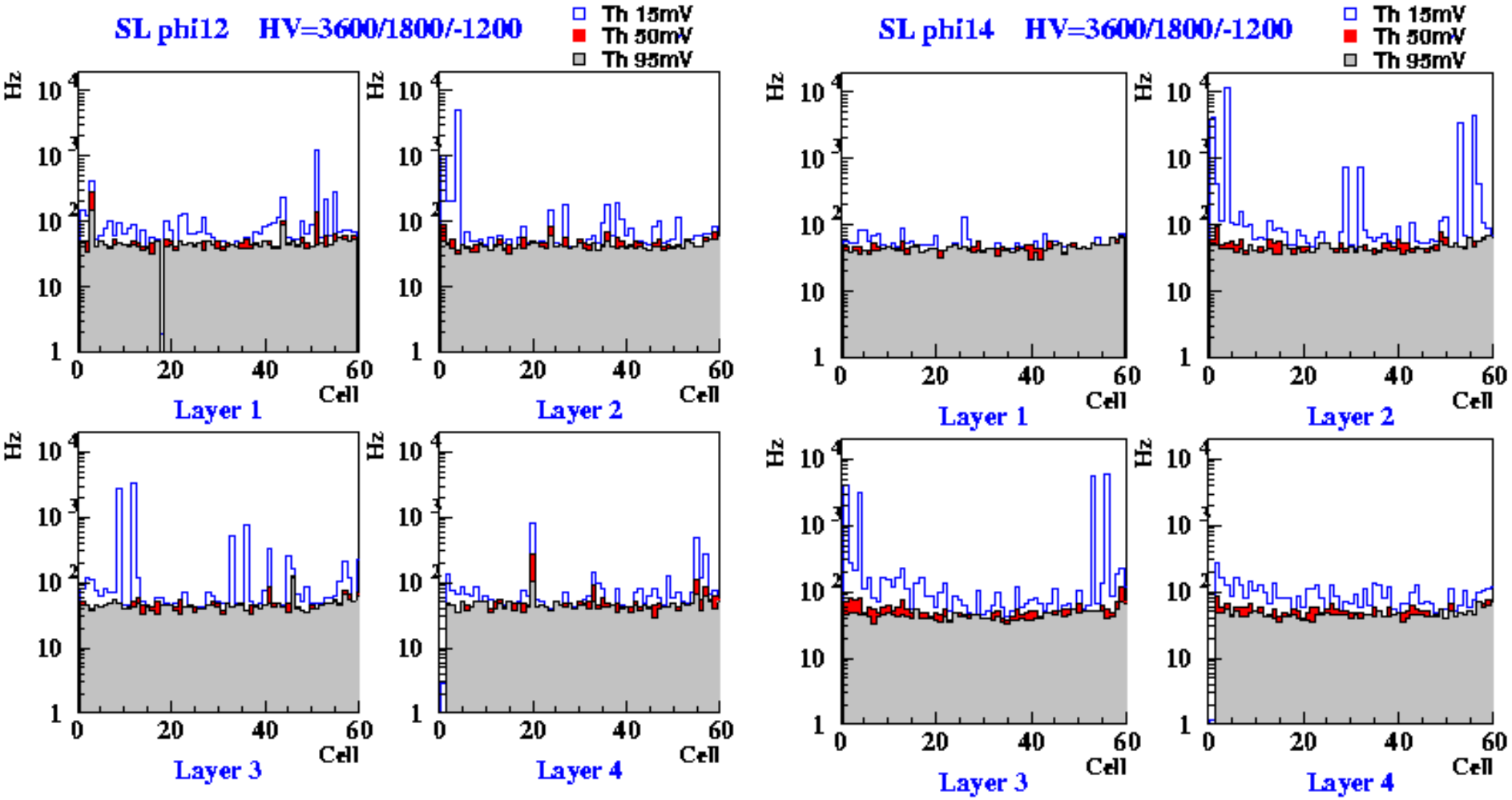
- Dead Channels on the blue connector

  Now we test them and on the last group the failure rate is 0%

- Some dead channels on the FE boards

  Now we have enough FE Boards to replace the bad ones

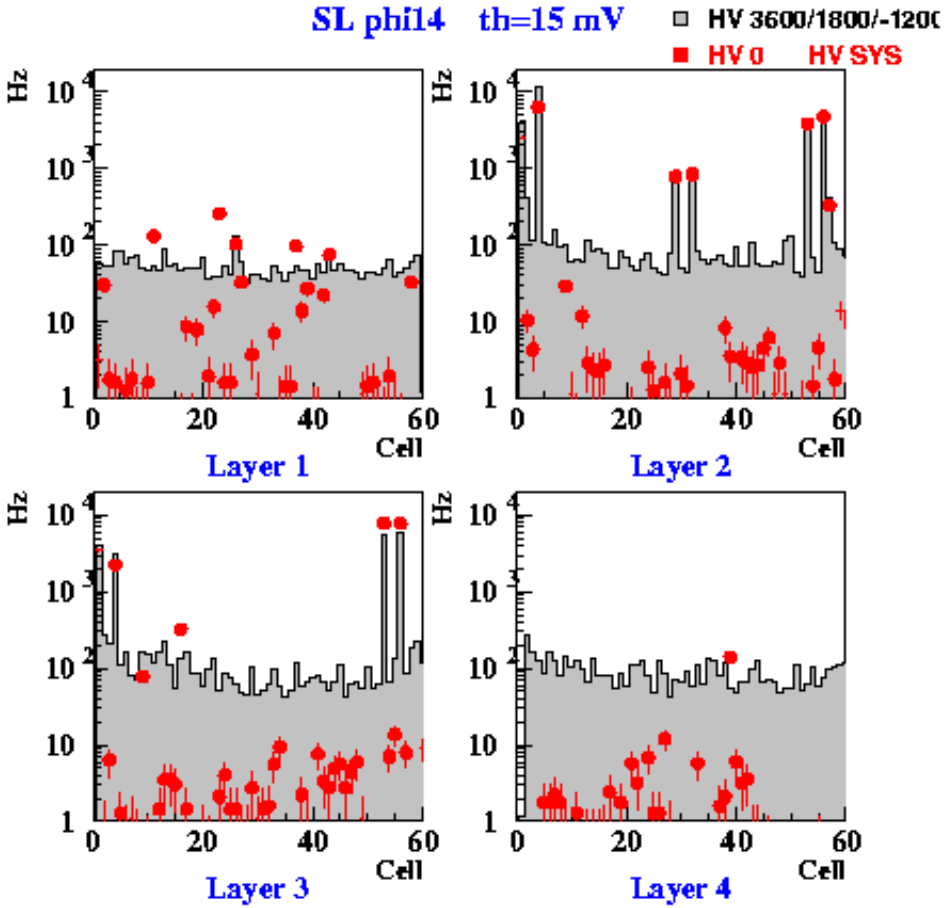
NOISE

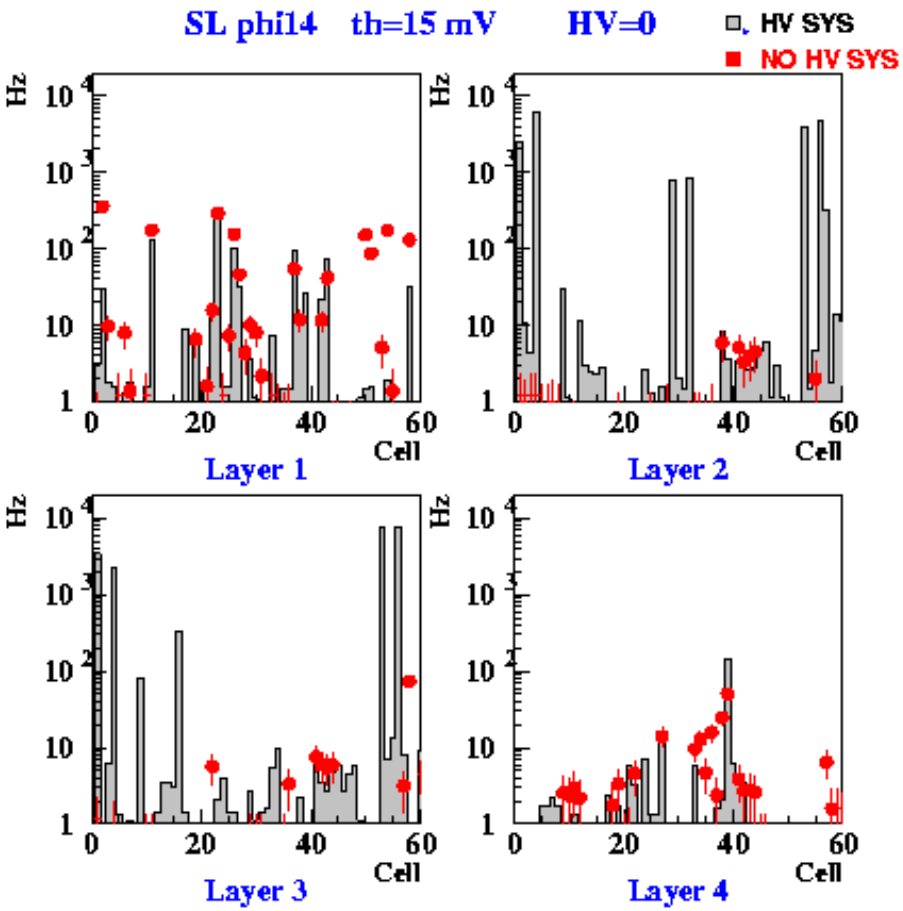


At 15 mV ⇒ ≤100Hz/cell

≤5 % Noisy Cells

NOISE

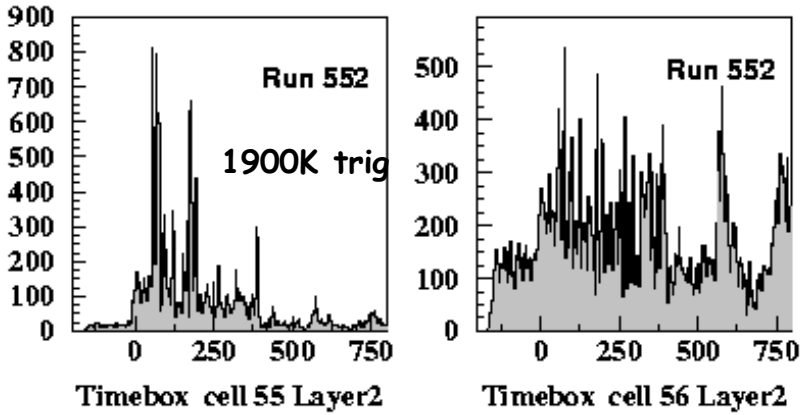




After switching OFF the HV noisy channels are still noisy

BUT

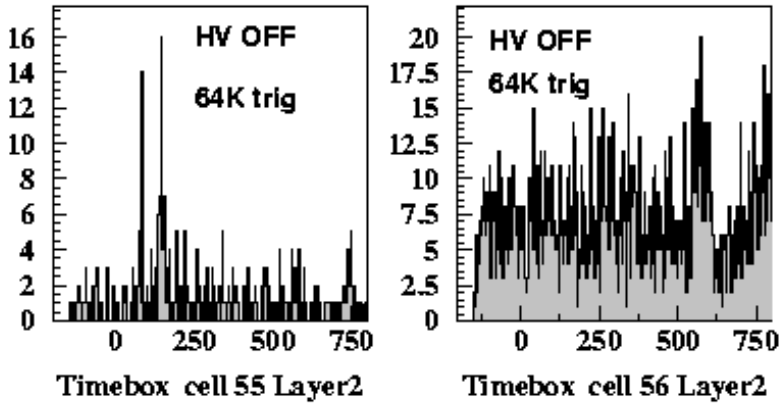
By taking out the HV System the noise disappears



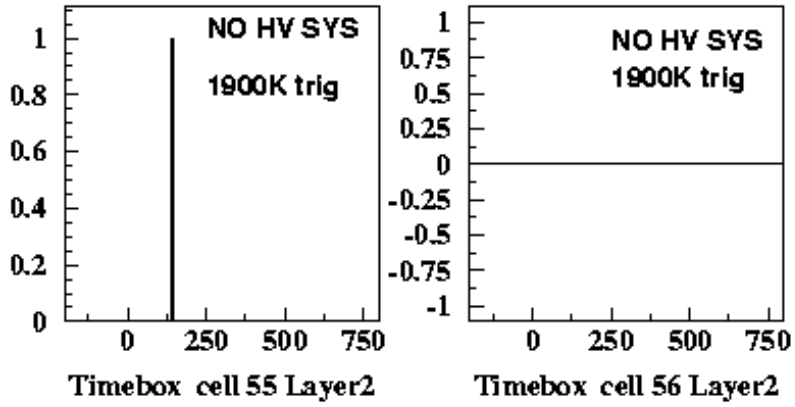
NOISE

The noise affects the timebox shape

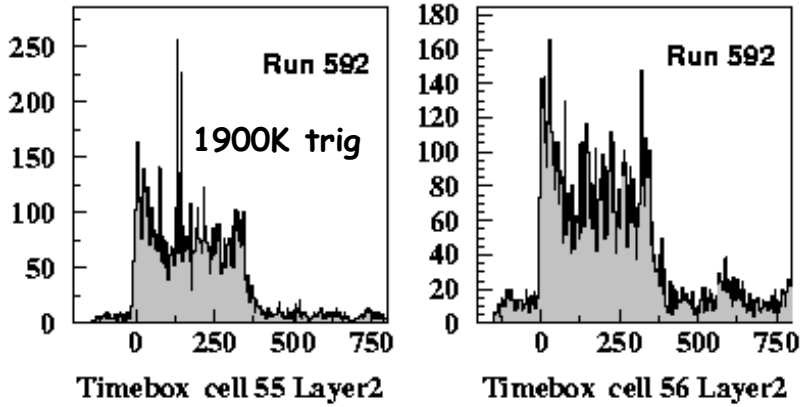
Switching off the HV



Taking out the HV system



But the noise change from run to run



This kind of noise appears mainly on channels on the 2 first and 2 last FEBs

Time needed for equipping with electronics and testing

From January 14th to March 3th => 3 chambers were equipped with HV and FE electronics, and were tested

Chamber #7: 3 weeks
Chamber #8: 2 weeks
Chamber #9: 2 weeks

(It includes some extra work during weekends)

Hardware for tests available at CIEMAT

- TDCs for 1 SL
- HV System for 1 SL

This is the most crytical problem

SLs cannot be tested on parallel