



Module Test Results in Bari Production Center

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CERN - L2/L3 meeting - April 2004

Module ARC test procedure

after bonding:

- 1) module mounted on test plate
- 2) optical inspection (with microscope)
- 3) module inside A1 test box, dry air fluxed (RH < 25 %)
- 4) module IV (Keitley 237) and sensor IV from DB (T rescaled)
in ARC output directory
- 5) ARC test: fast (all tests) & deep:
 - ped&noise, pulshape (4 modes)
 - pipeline (peak inv on)
 - LED + pinhole



ARCS version & macros

all modules (L34 & L12) tested with ARCS 7.0
with TIB official cuts: testsettings_70.xml

plots are produced by Tony & Riccardo's macro

xml file for DB produced with xFLAG

version 1.4.3 for RH 7.3

Module Grading (after ARC test)

modules tested up to last week

IB_L12P.6D

12 with grade A

30200020035196 30200020035197 30200020035202 30200020035203 30200020035204
30200020035216 30200020035220 30200020035229 30200020035232 30200020035267
30200020035269 30200020035270

IB_L34P.4D

48 with grade A

30200020035003 30200020035004 30200020035005 30200020035028 30200020035030
30200020035031 30200020035032 30200020035033 30200020035037 30200020035039
30200020035041 30200020035045 30200020035046 30200020035049 30200020035058
30200020035060 30200020035070 30200020035087 30200020035088 30200020035101
30200020035107 30200020035109 30200020035110 30200020035112 30200020035117
30200020035123 30200020035130 30200020035133 30200020035134 30200020035135
30200020035136 30200020035139 30200020035145 30200020035146 30200020035147
30200020035148 30200020035152 30200020035161 30200020035179 30200020035194
30200020035043 30200020035053 30200020035160 30200020035178 30200020035194
30200020035102 30200020035105 30200020035108

1 with grade AF

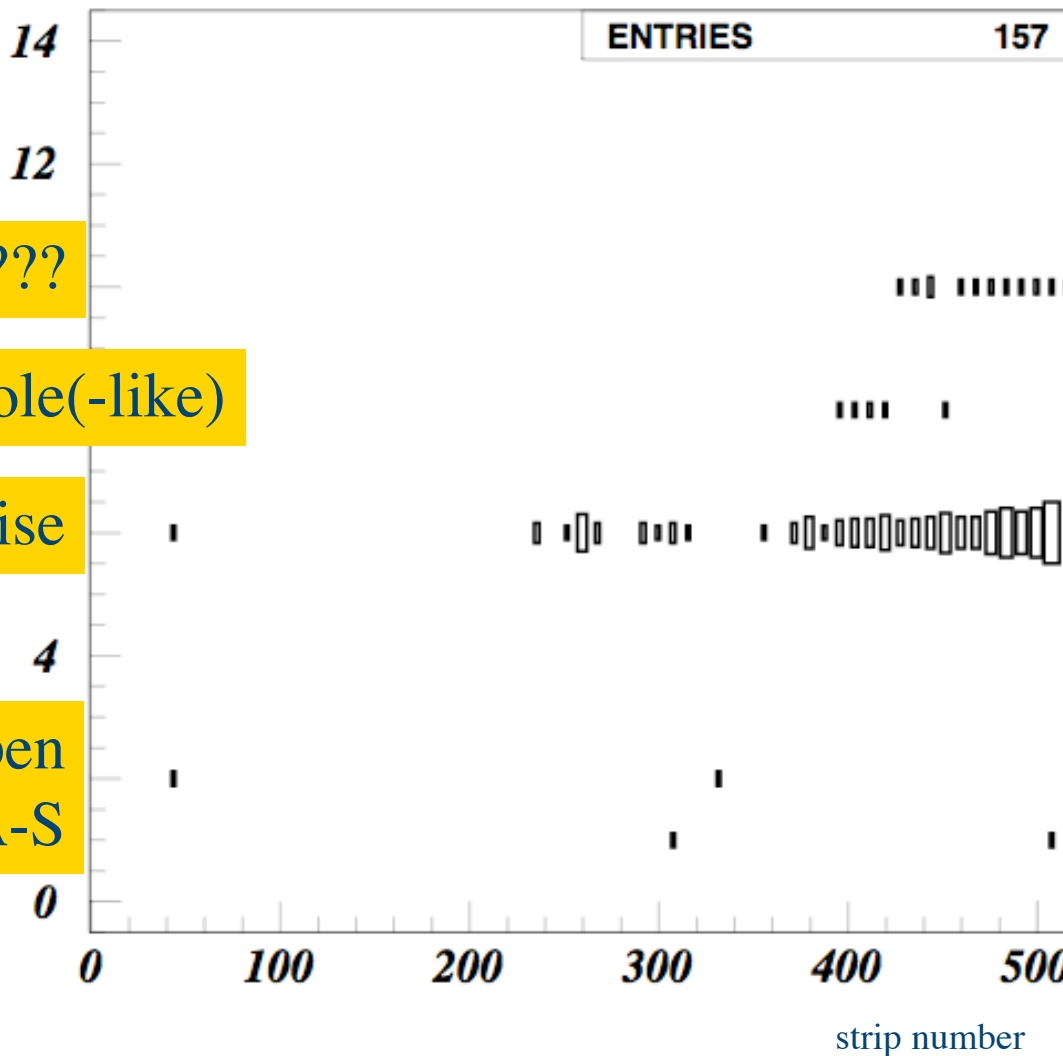
30200020035142

2 with grade C

30200020035176 30200020035184

Defects Multiplicity (L34 modules)

all modules



157/21504 ~ 0.7 %

0.51 ‰ (only ...35184)

0.23 ‰

0.6 %

0.2 ‰

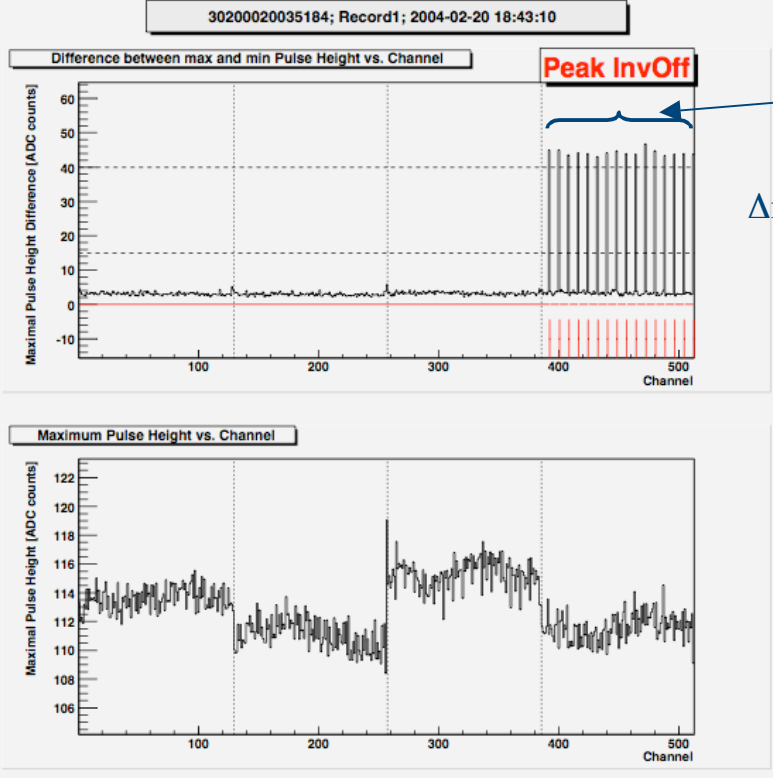
????

pinhole(-like)

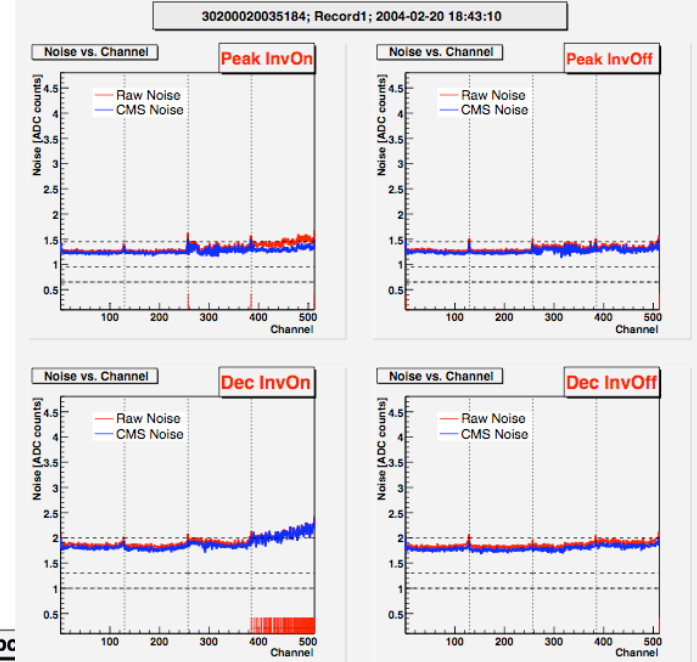
noise

Open
PA-S

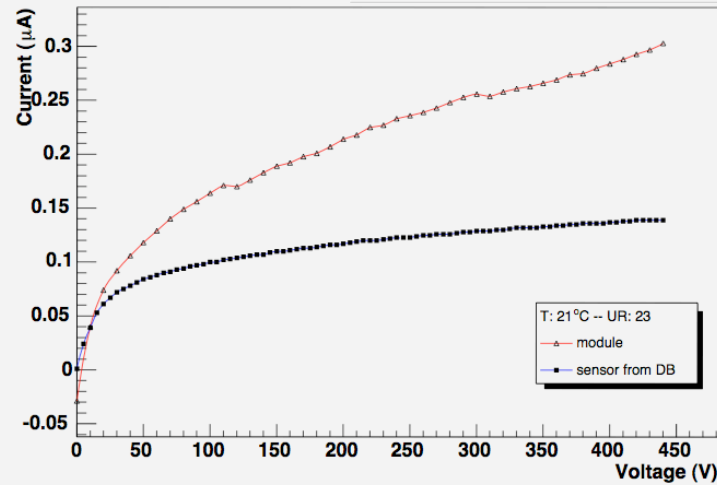
30200020035184



16 PHL-
ph=4
 $\Delta n = 8$ strip



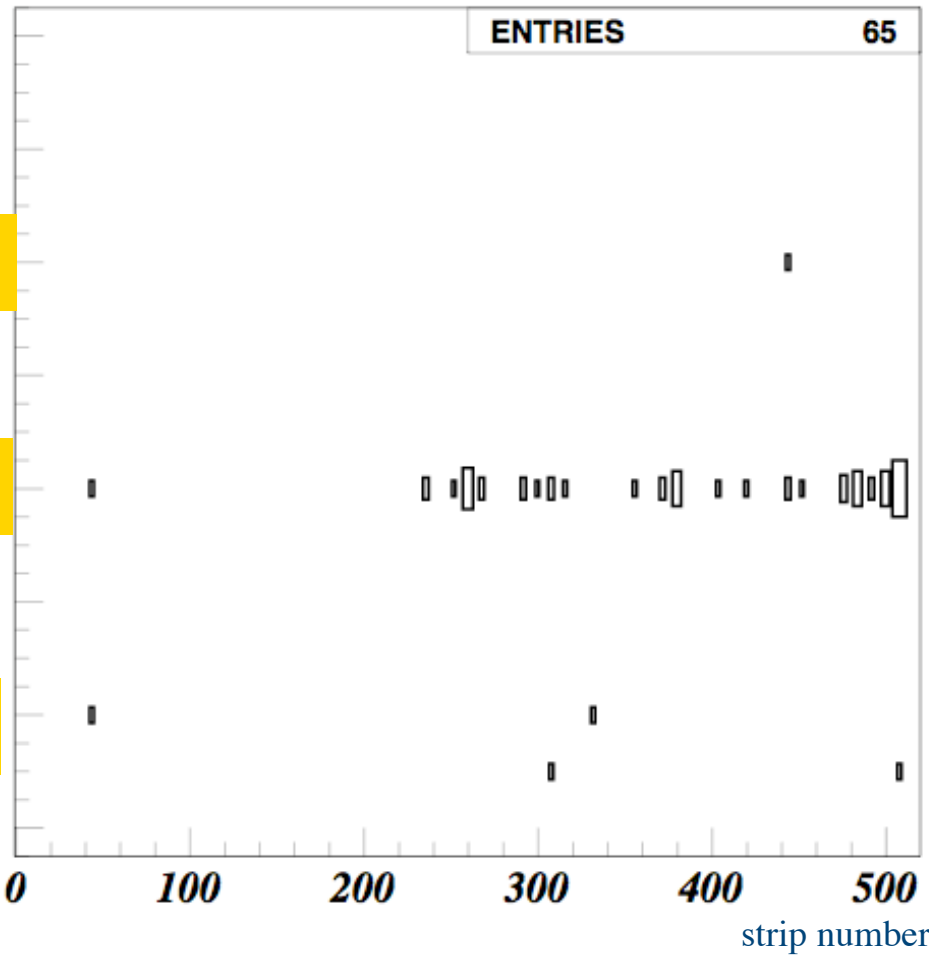
IV_TIB30200020035184_afterpc



grade C

Defects Multiplicity (L34)

grade A modules



65/20480 ~ 0.3%

pinhole

0.04 ‰

noise

0

0.29 ‰

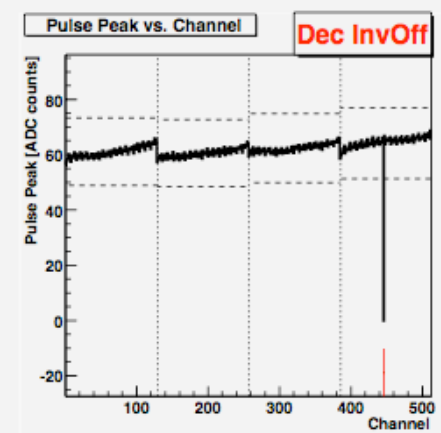
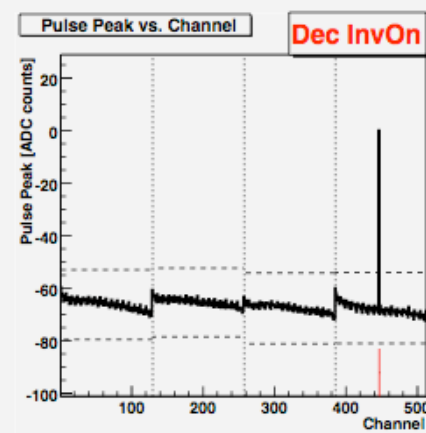
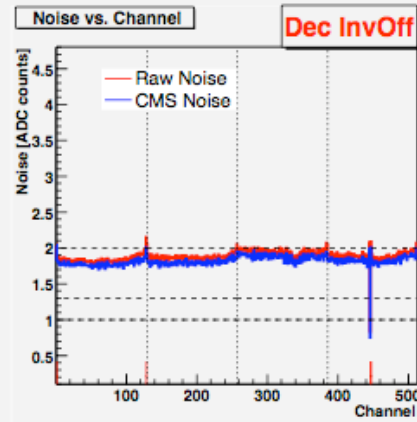
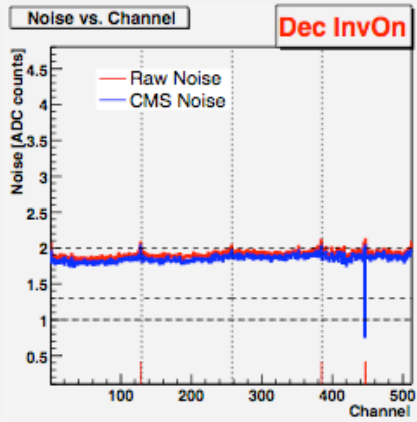
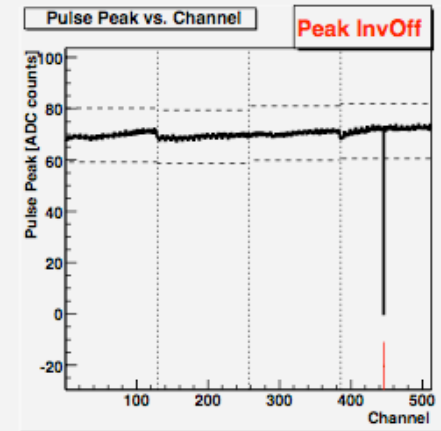
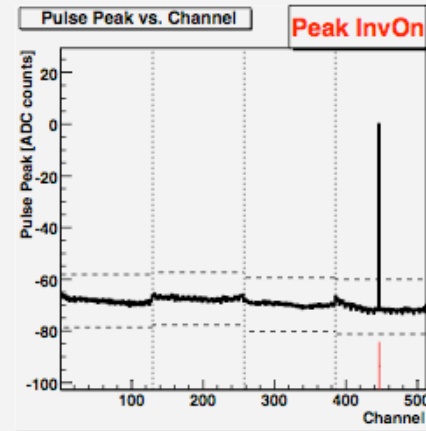
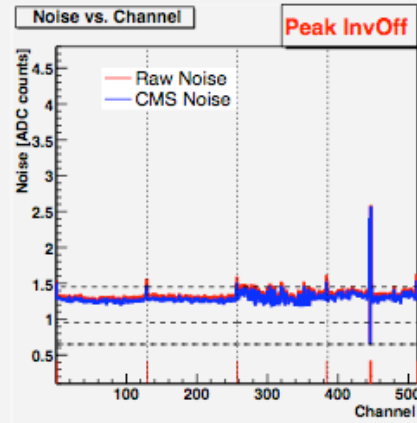
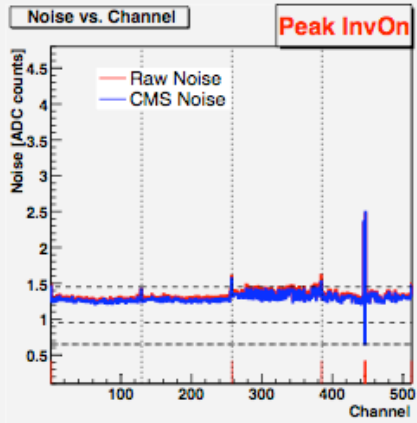
Open

0.19 ‰

30200020035142

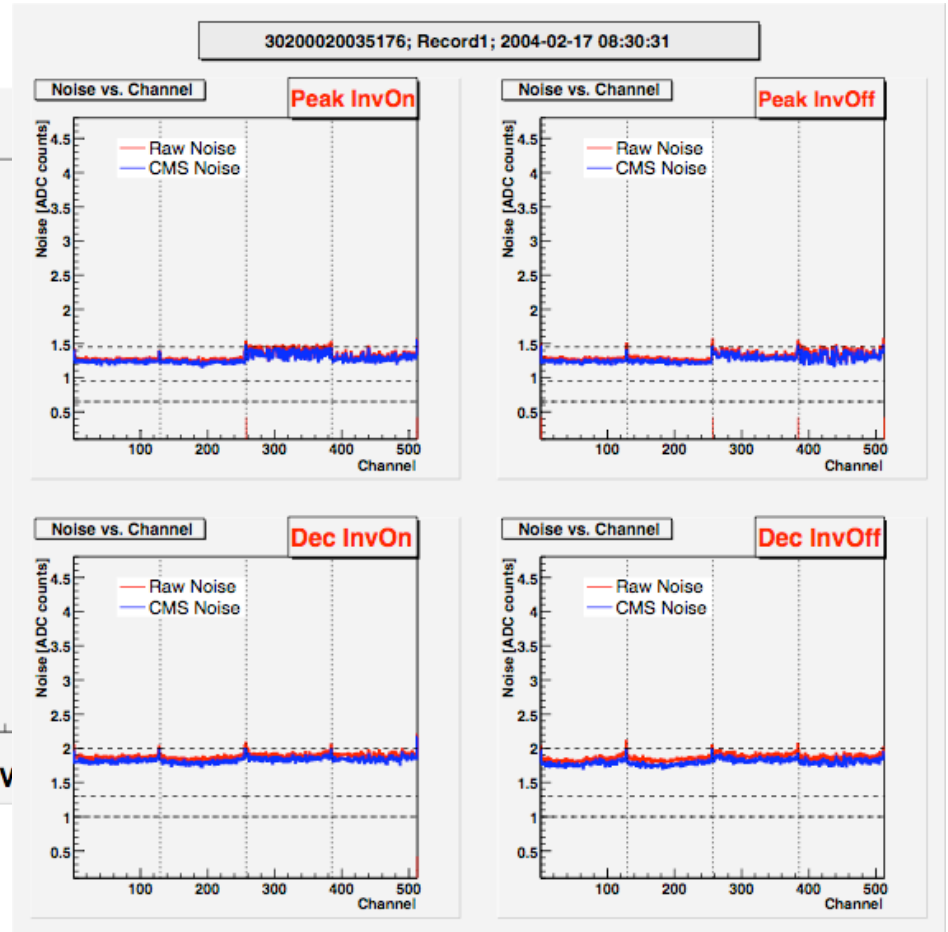
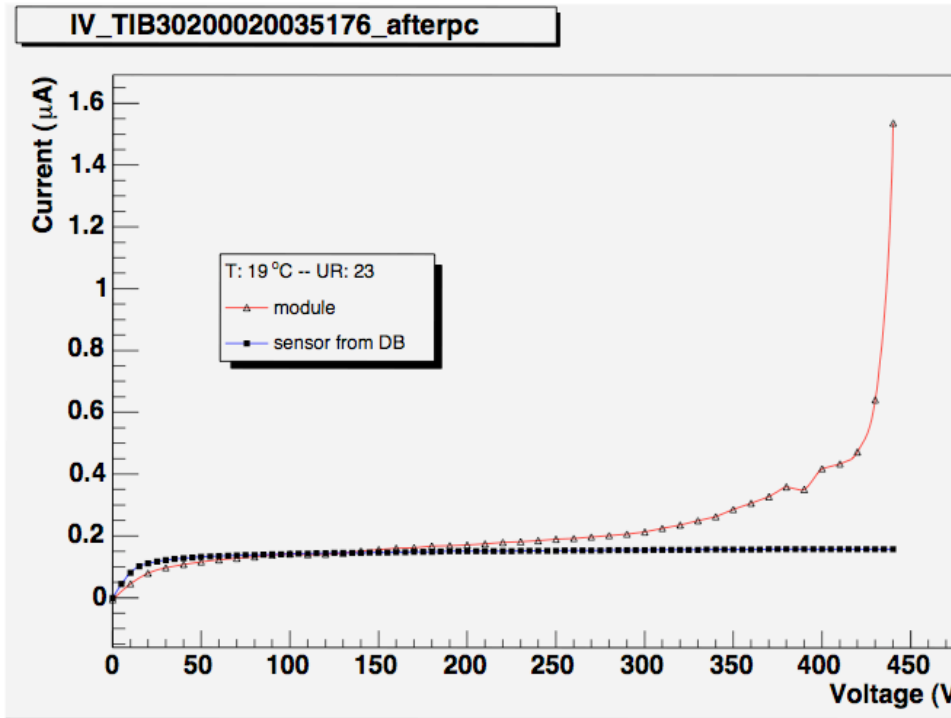
grade AF

30200020035142; Record1; 2004-02-19 10:01:28



30200020035176

grade C



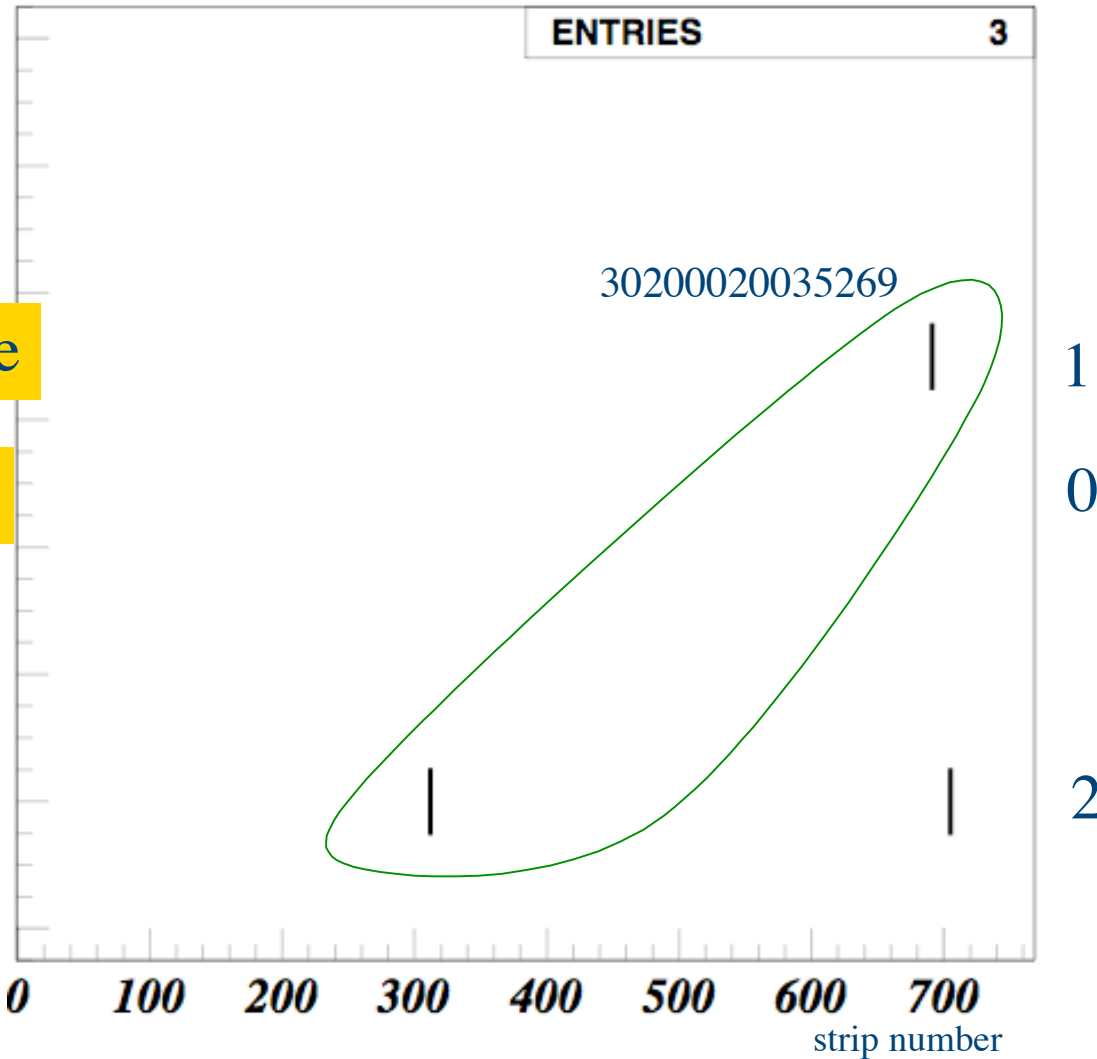
Defects Multiplicity (L12)

3/9216 ~ 0.03 %

pinhole

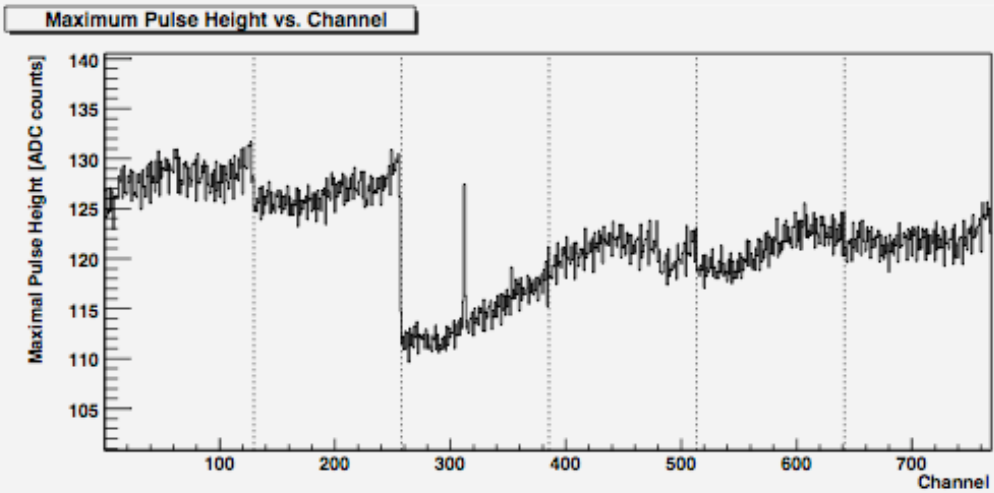
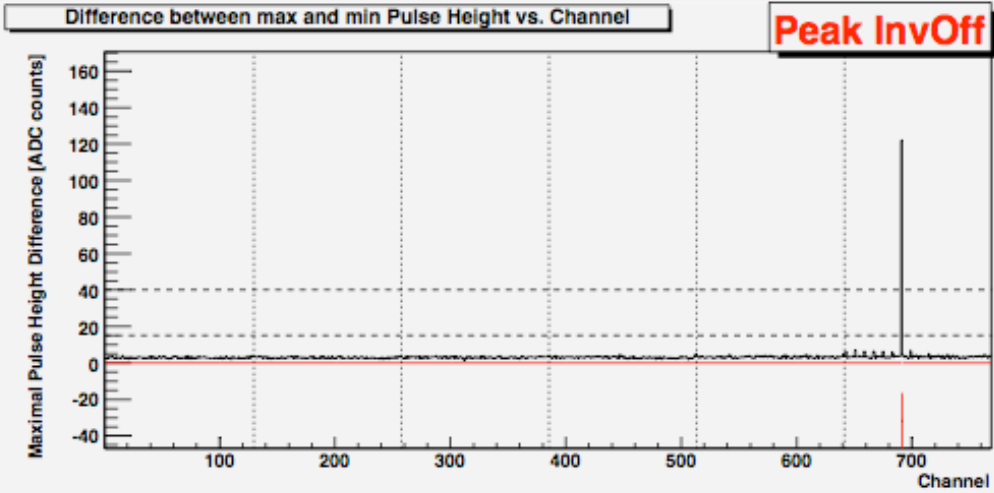
noise

open



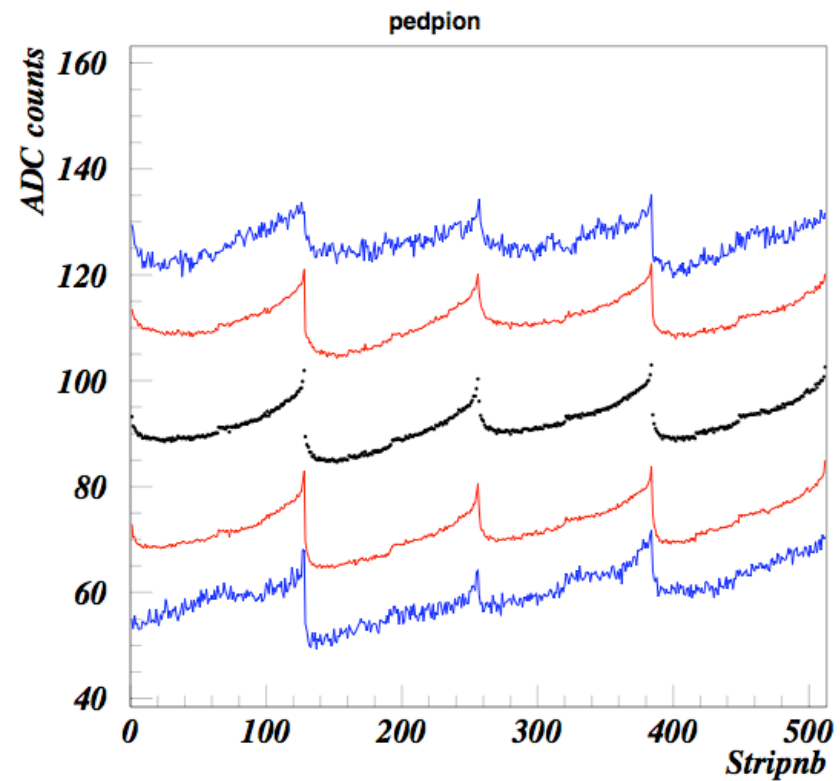
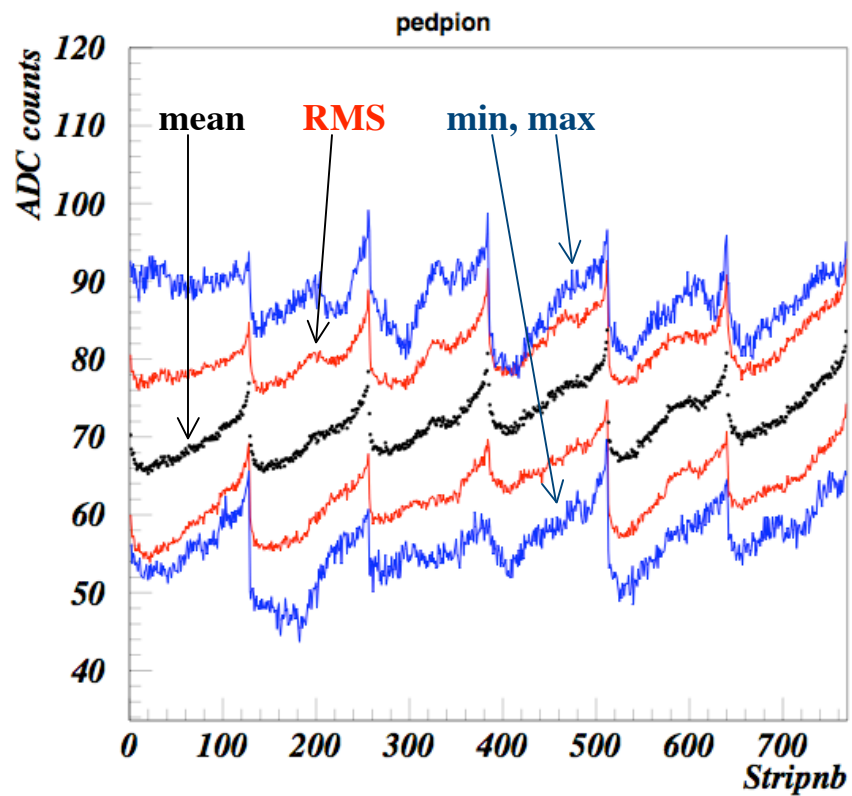
30200020035269

30200020035269; Record1; 2004-04-07 18:50:48

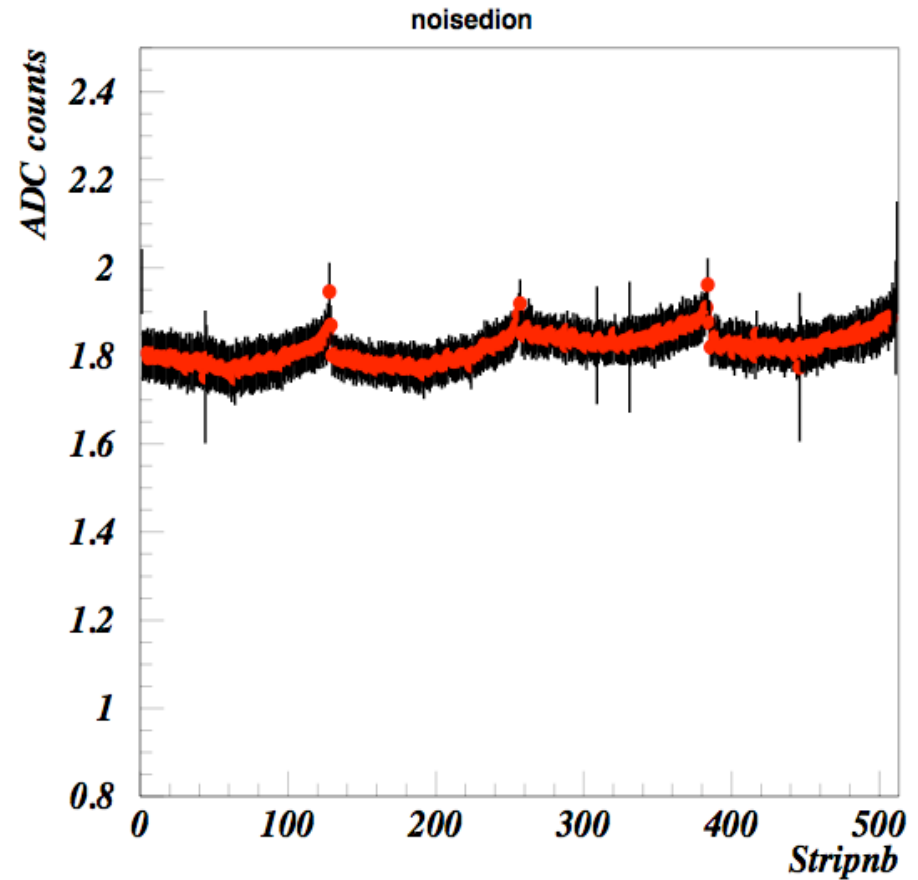
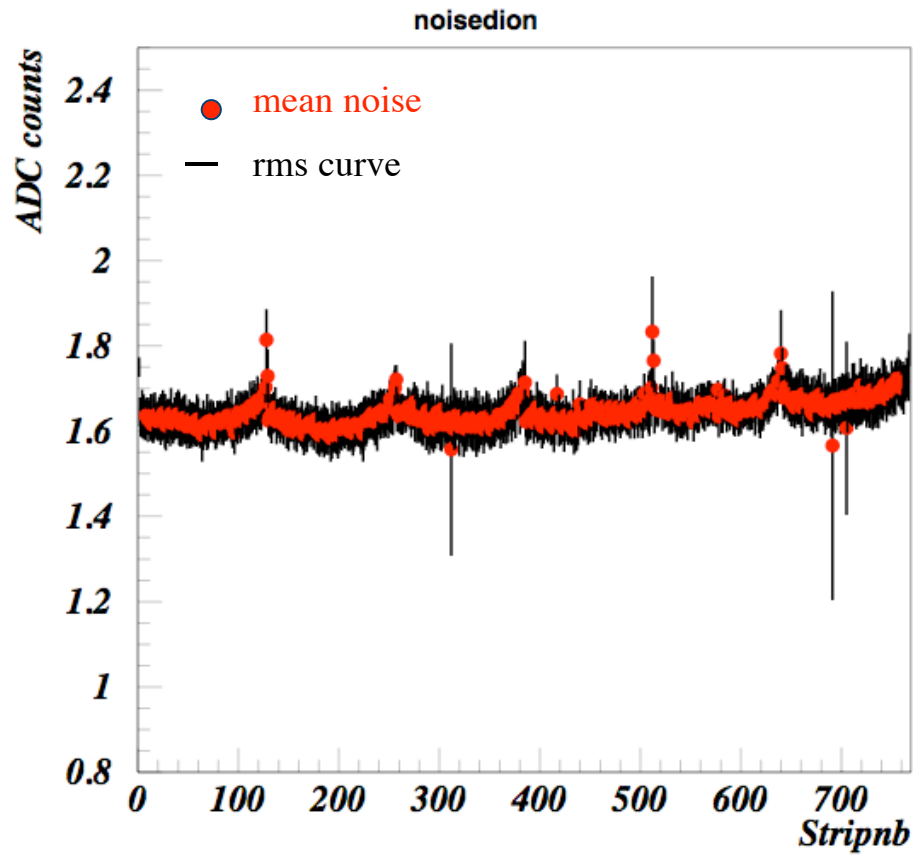


Ped L12 vs L34 Modules

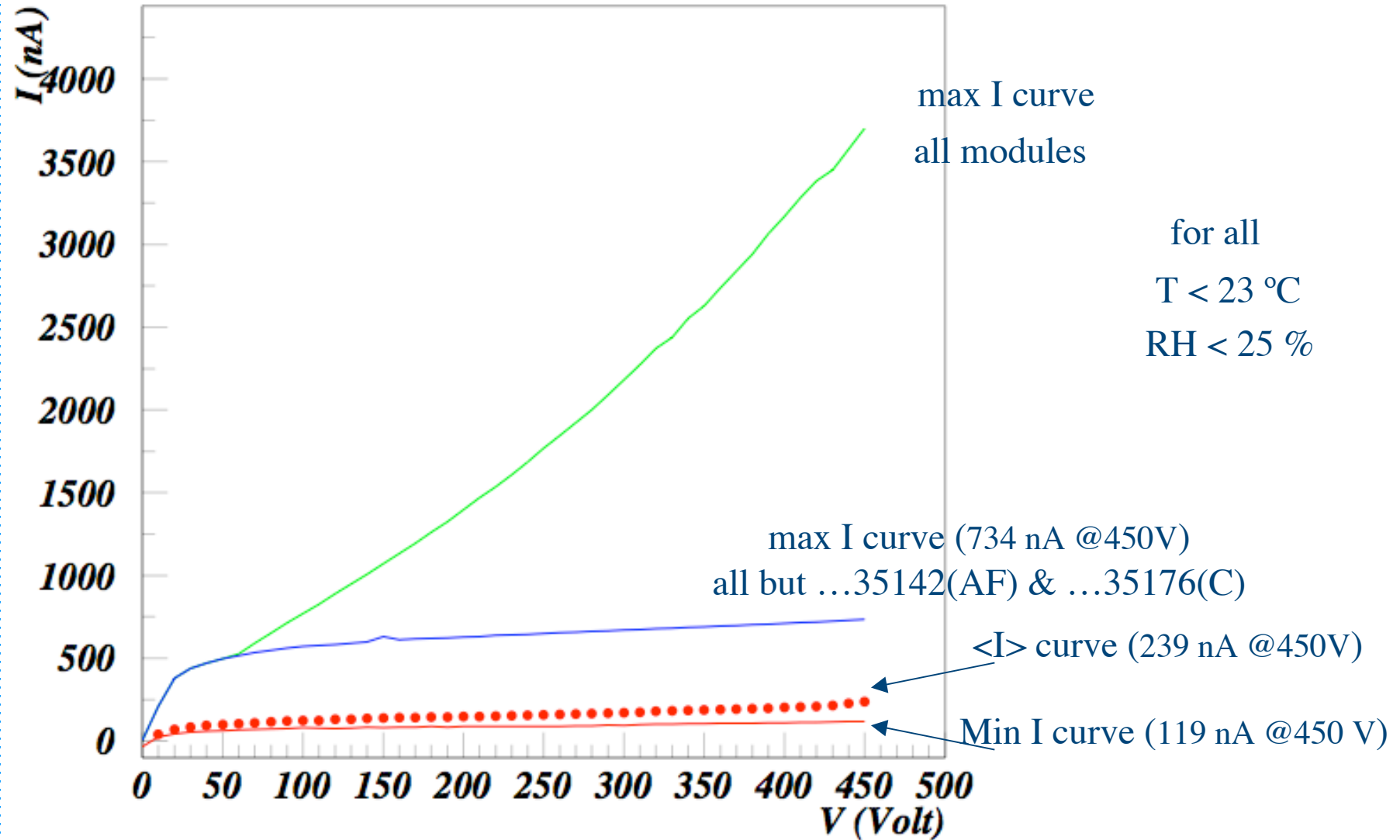
same settings



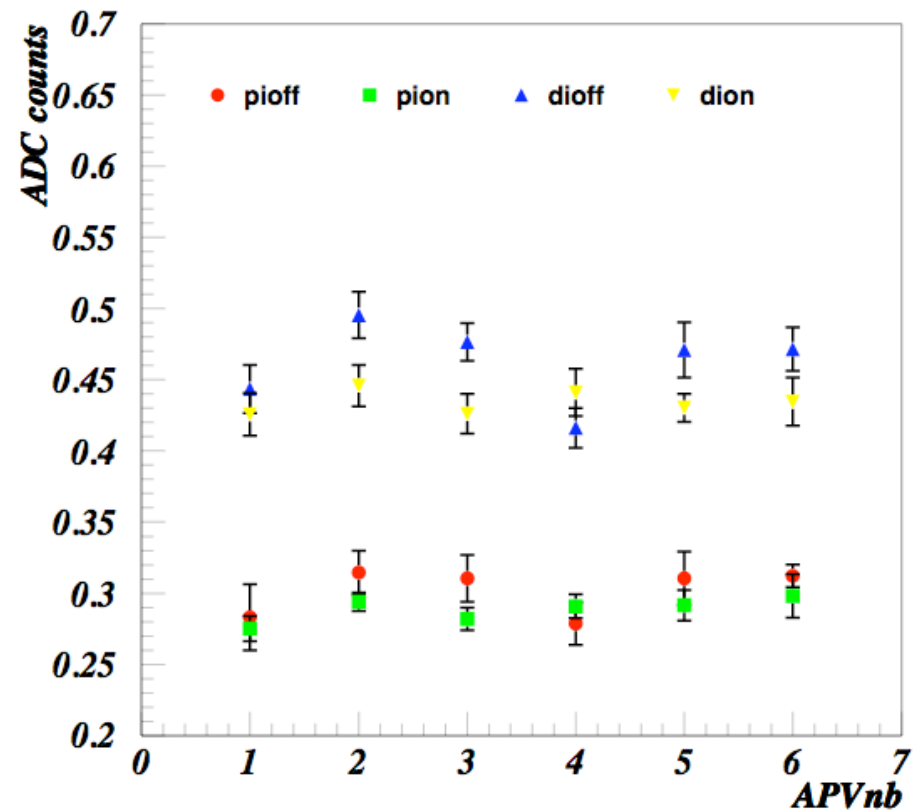
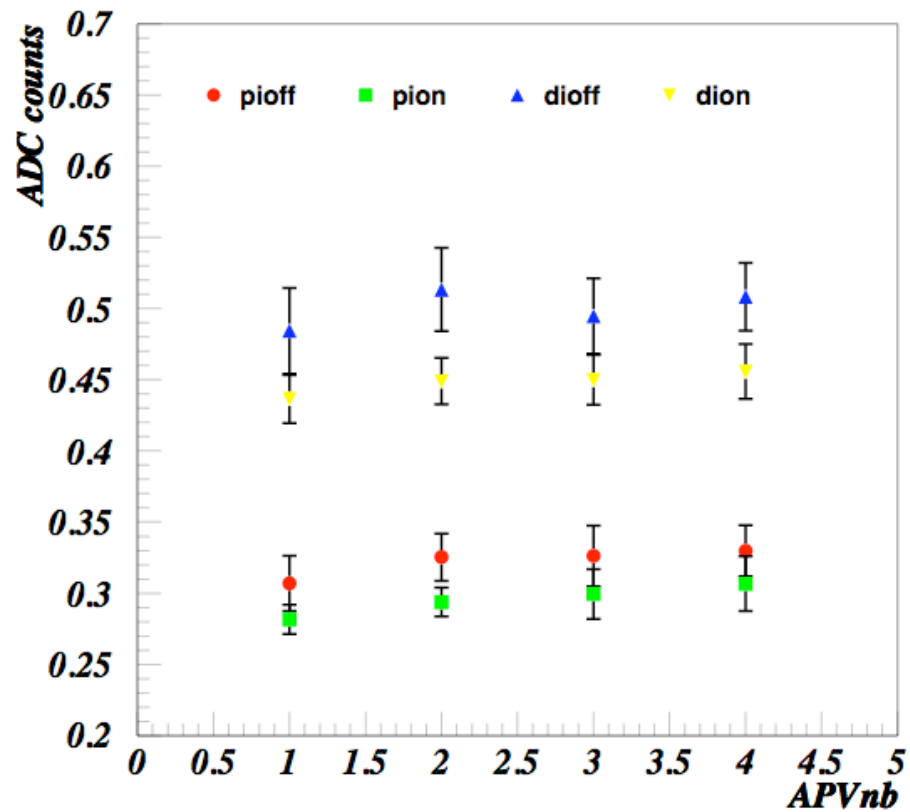
Noise L12 vs L34 Modules



I-V, all modules



Common Mode




xml files in DB

Uploaded in central DB 49 xml files for modules ARC-tested:

47 + 2 bad

INFN CERN CMSdoc ModuleTest Google Apple .Mac Notizie



Previous level: Module selection form
 Current level: Inventory of Modules of any type, already assembled in any Center from 2001-01-01 to 2004-04-09

Clicking on an underlined number gets the corresponding Module subinventory
 Clicking on an underlined word (Production stage, Center, or Module type) displays the corresponding all-Module Production Rate graph

WARNING: no 'tested' Modules appear in this inventory at the moment because Electric Test data are temporarily being recorded in a separate DB file, the "test" DB. They will appear here as soon as they are copied over to the "production" DB.

assembled:		OK	bad	bonded:		OK	bad	tested-ARC:		OK	bad	tested-LTcold:		OK	bad	tested-LTfinal:		OK	bad	current status:		valid	fault
assembled:		1391	47	bonded:		1179	10	tested-ARC:		119	4	tested-LTcold:		68		tested-LTfinal:		68		current status:		1347	9
of which in...				of which in...				of which in...				of which in...				of which in...				of which currently in...			
AACHEN-1		5		AACHEN-1		18		AACHEN-1				AACHEN-1		1		AACHEN-1		1		AACHEN-1		46	
ARI		376	6	ARI		110		ARI		47	2									ARI		115	1
RUSSEL-VUB		32	9																	RUSSEL-VUB		11	
				CATANIA		51	2													CATANIA		65	
				CERN		1														CERN		8	
FERMILAB		147	12	FERMILAB		58														FERMILAB		144	1
				FIRENZE		86		FIRENZE		56	2	FIRENZE		55		FIRENZE		55		FIRENZE		91	
LYON		159	6	LYON		9	1													KARLSRUHE-IEKP		9	
PADOVA		6		PADOVA		68														LYON		20	
PERUGIA		380	2																	PADOVA		126	
PISA		5		PISA		247	3													PERUGIA		1	
SANTA-BARBARA		275	12	SANTA-BARBARA		286		PISA		1		PISA		1		PISA		1		PISA		243	
				STRASBOURG		28	4													SANTA-BARBARA		215	1
				TORINO		83														STRASBOURG		40	
VIFENNA		14		VIFENNA		14		TORINO		11		TORINO		11		TORINO		11		TORINO		91	

Long Term

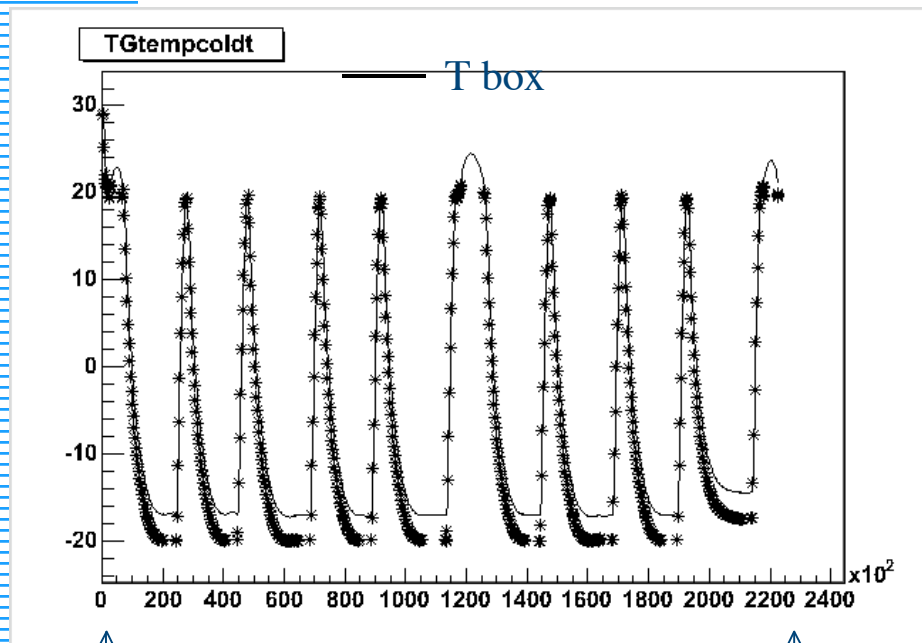
Long Term test started last week

6 L34 modules tested.

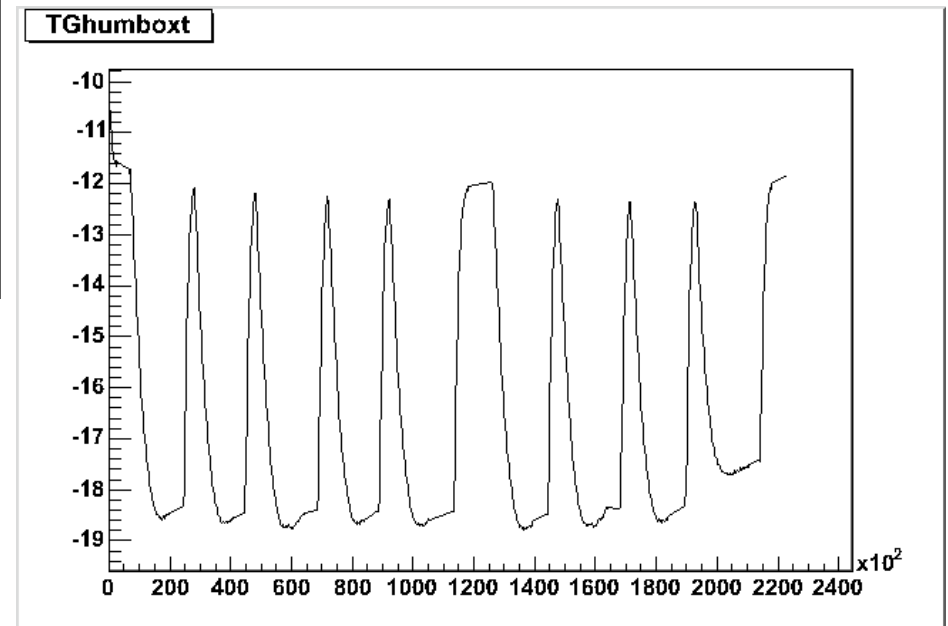
xFLAG analysis not yet

3 modules have DAQ errors

0 modules with I2C errors

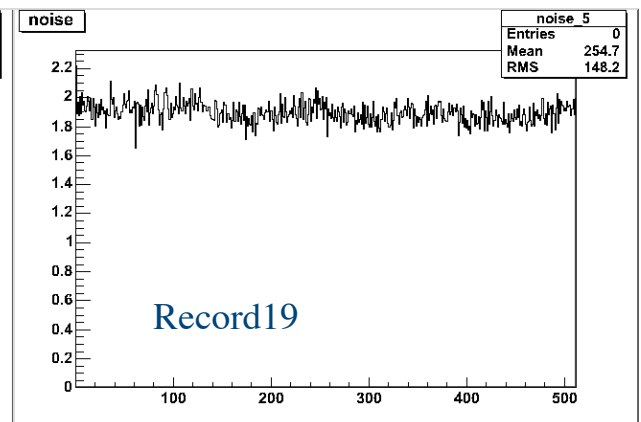
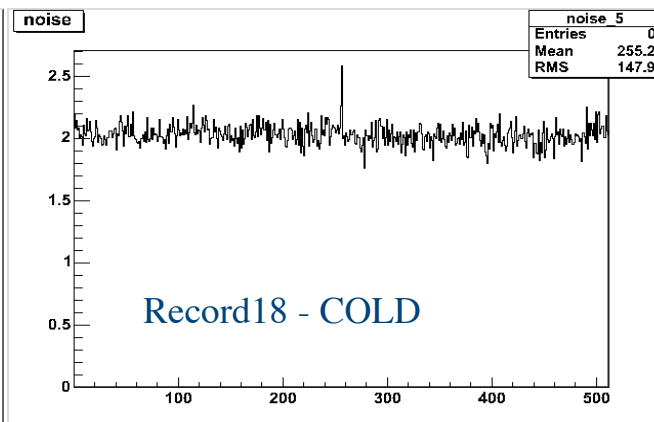
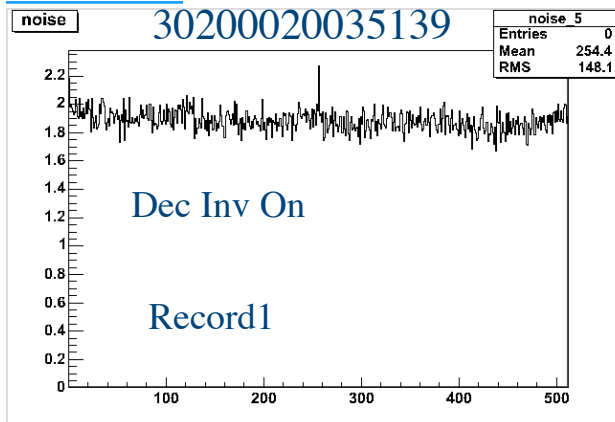


2.5 days

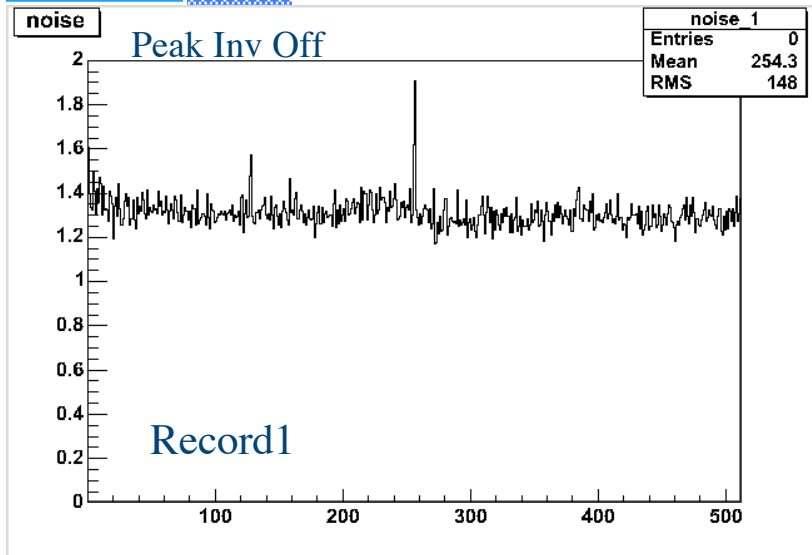


Long Term

CMNoise (ADC Counts)	APV1	APV2	APV3	APV4
bench0	0.39	0.38	0.41	0.40
bench1	0.35	0.38	0.34	0.37
bench2	0.32	0.33	0.31	0.36
bench3	0.37	0.38	0.40	0.42
bench4	0.31	0.33	0.32	0.36
bench5	0.36	0.34	0.34	0.36



Long Term



30200020035147 - bench1
lost bias in the LAST record

H.V. P.S.: CAEN SY527
A833AP (2.5 kV - 200 μ A)

