PRIMEX Lead Glass Electromagnetic Calorimeter

Valeri Koubarovski

Institute for High Energy Physics
Protvino, Moscow region, 124241, Russia

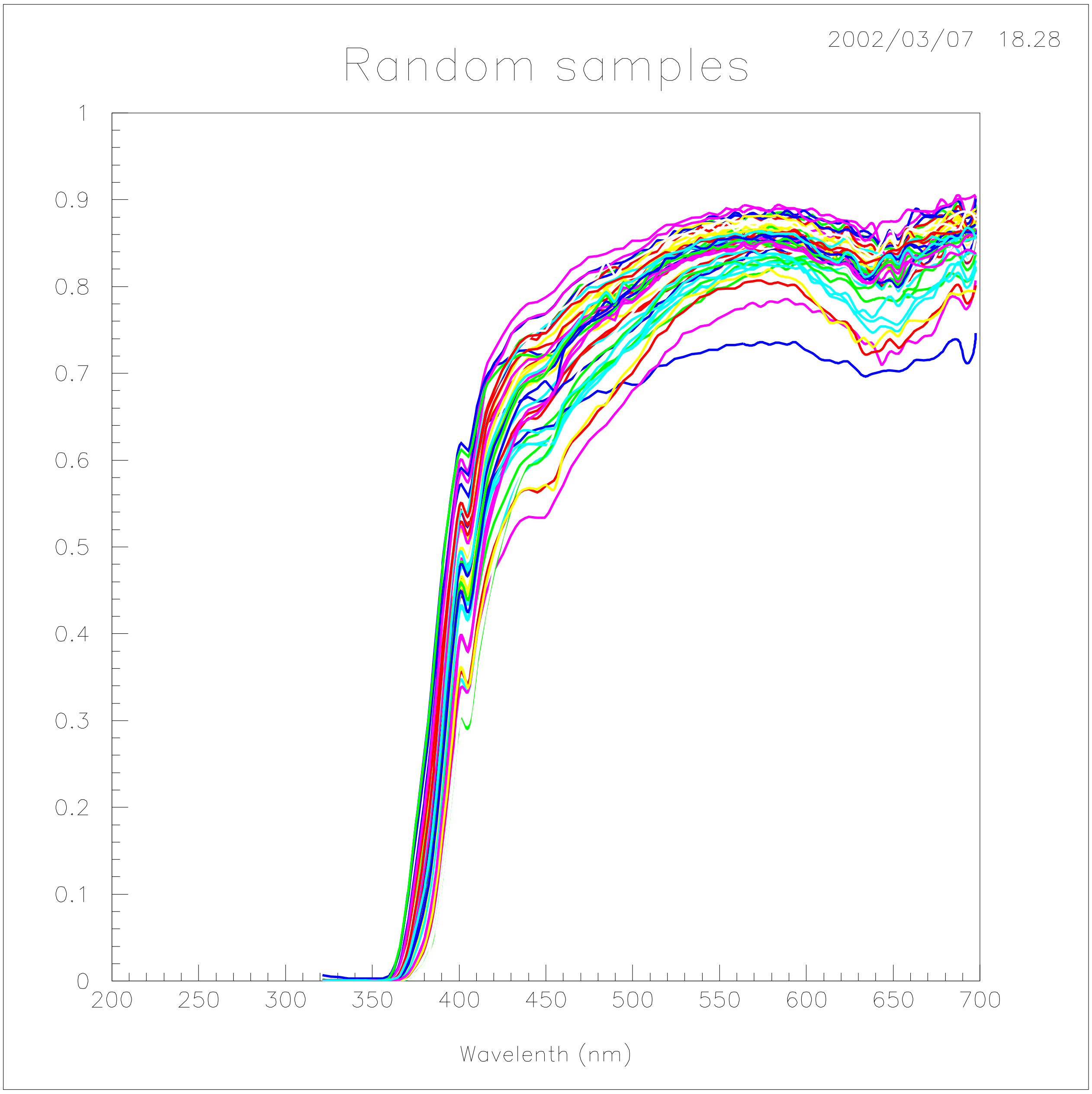
Status Report

- 2,000 lead glass blocks (38.0 x 38.0 x 450 mm^3) were inspected. 1000 out of 2000 were selected for PRIMEX based on the transparency.
- The dimensions of 1000 lead glass blocks were measured. The average size is $38.00 \pm 0.040 mm$
- 2,000 PMT FEU-84 were tested. Test stand included LED and the reference PMT.
- PMT bases dedicated to FEU-84 were modified for dinode output. Technician is busy now with bases
- 3 HV booster supply blocks for last three (out of 12) dynodes will be used. The bases will be modified for this as well

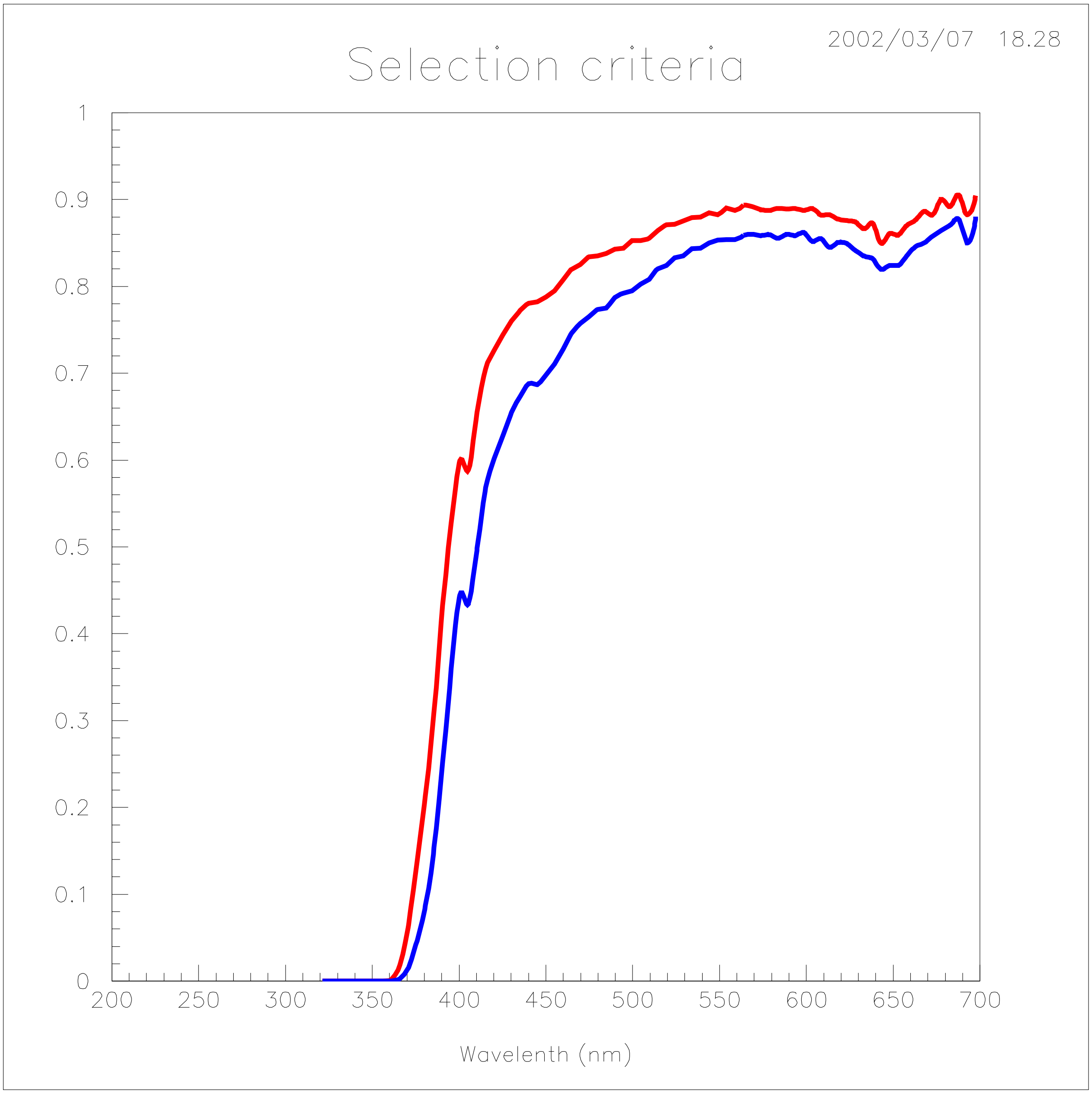
Plan

- Modify 600 PMT bases and test them
- Wrap 600 lead glas blocks with mylar
- Attach mechanical structure for PMT mounting
- Attach PMT using optical greese or (??) glue
- Assemble the detector

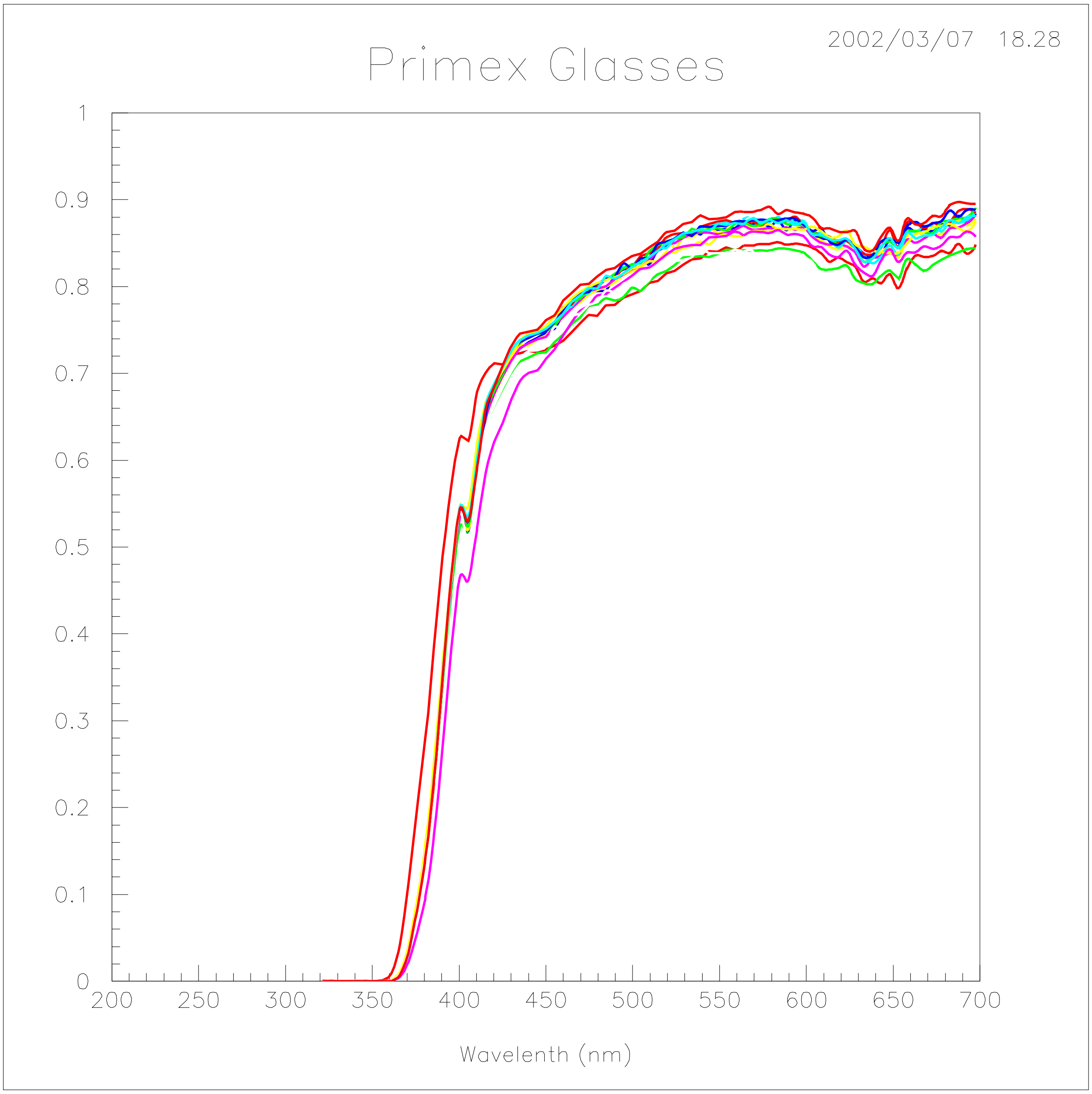
Random Sample



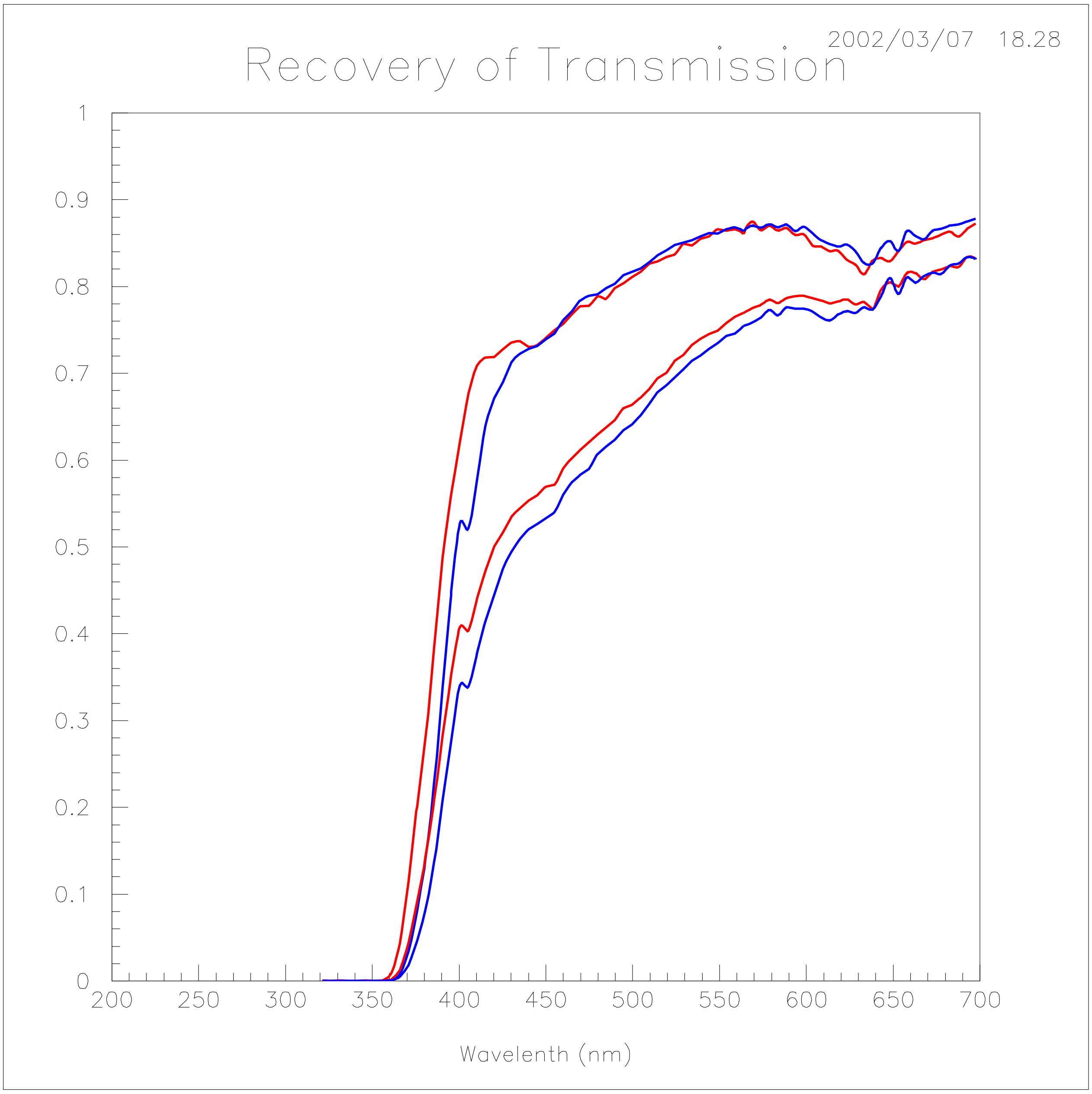
Selection Criteria



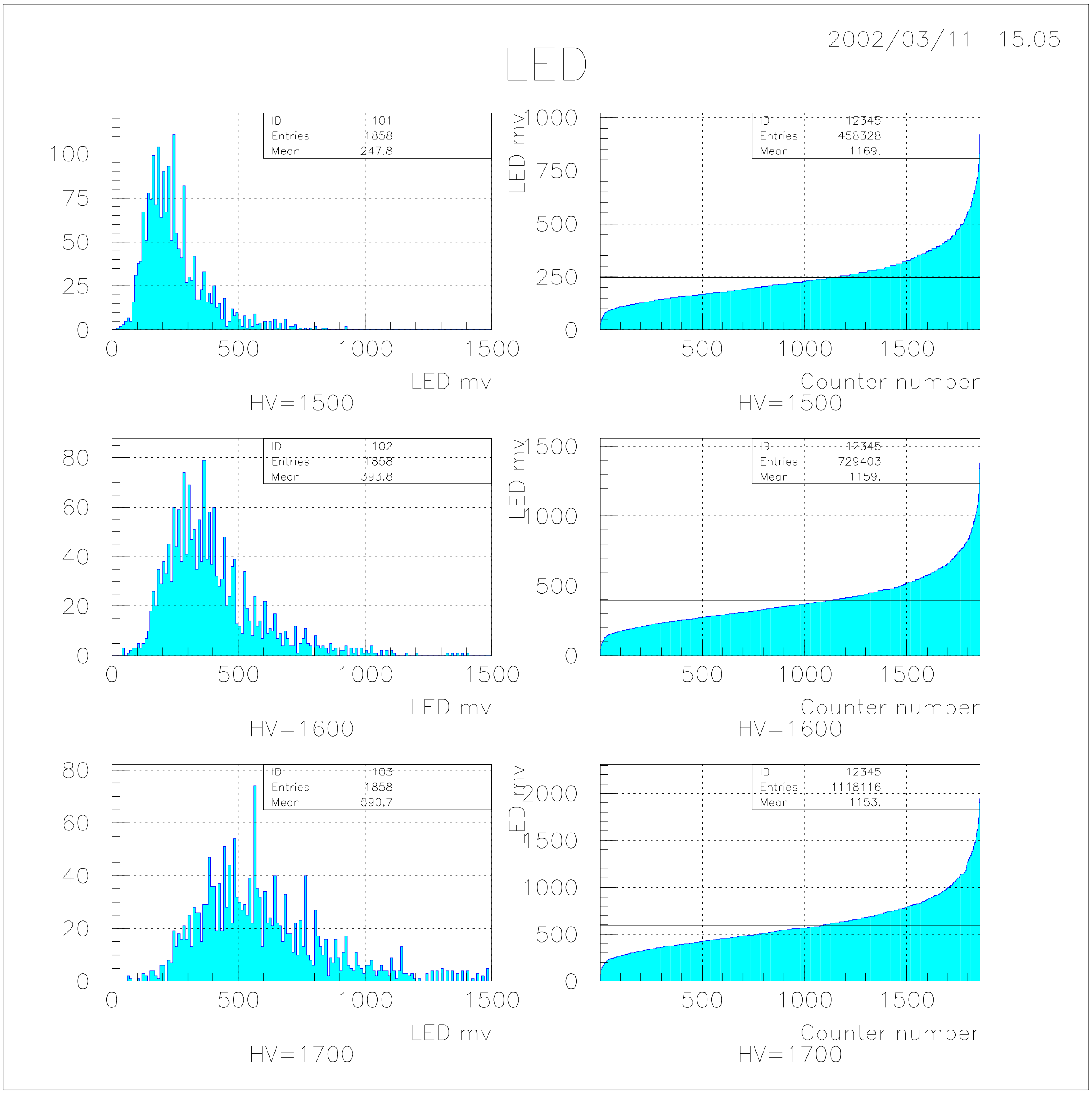
PRIMEX counters



Recovery of Transmission

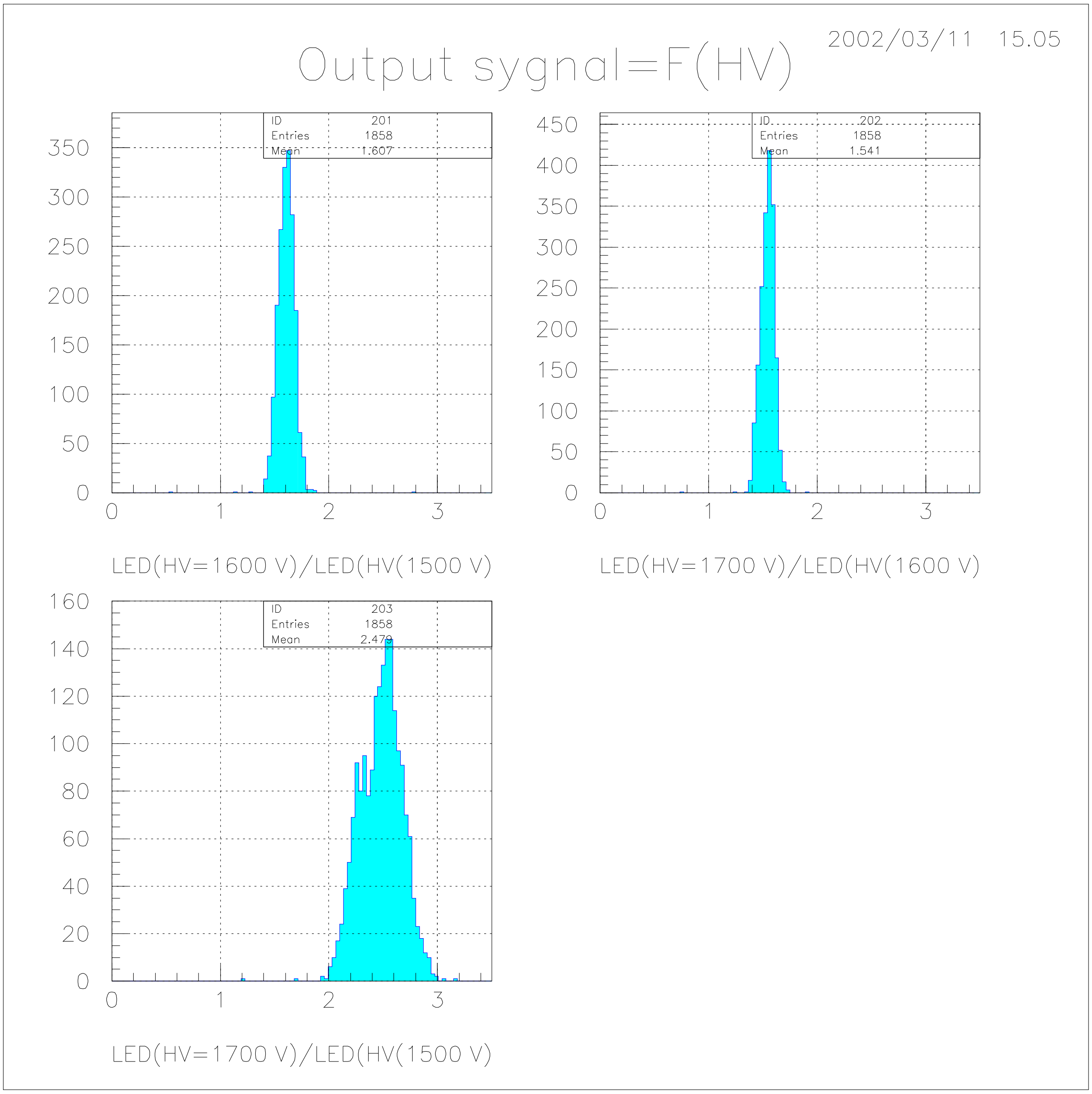


LED Test



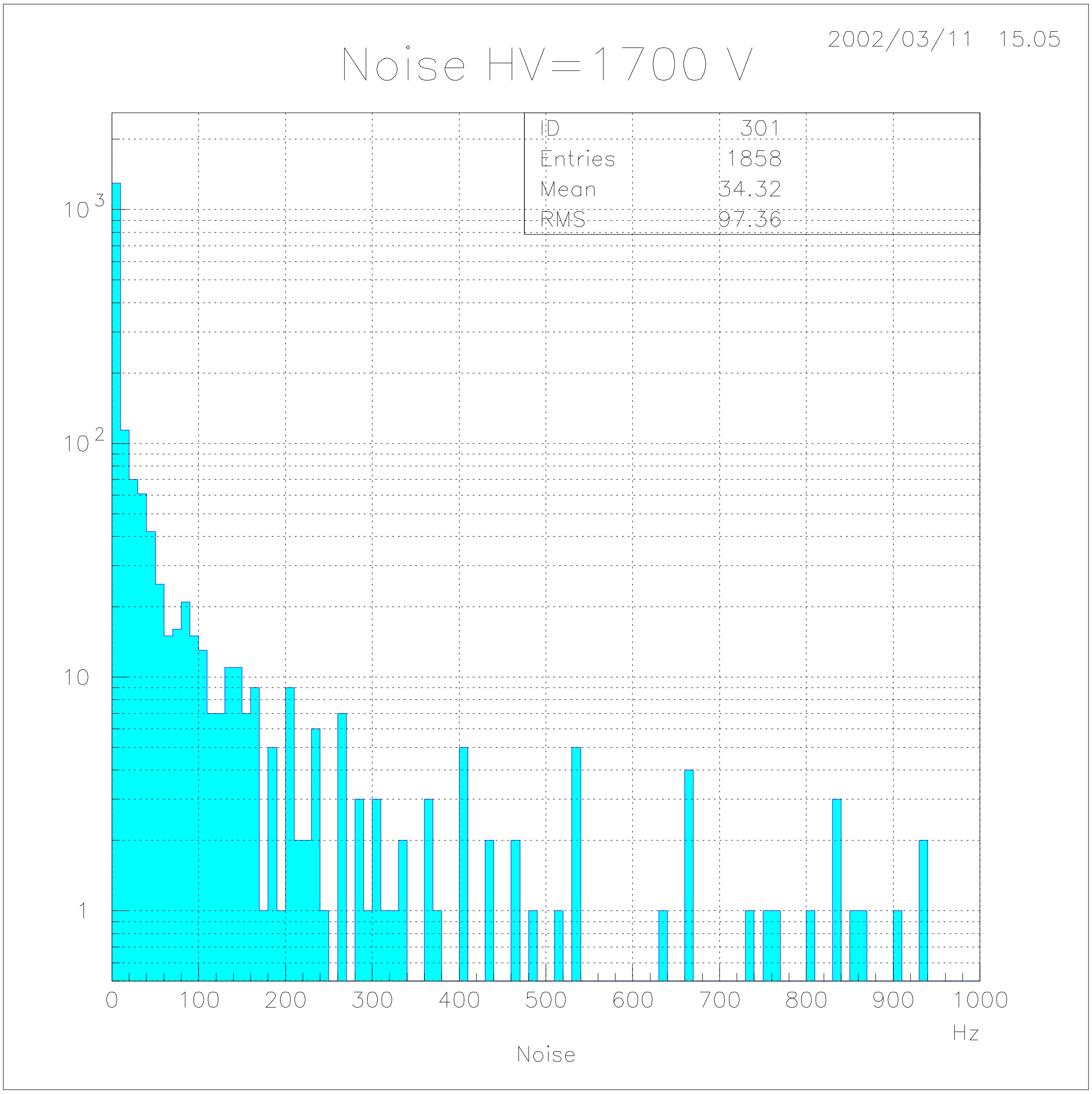
LED
2002/03/11 15.05
ID 101
Entries 1858
Mean 247.8
LED mv
HV=1500
ID 12345
Entries 458328
Mean 1169.
LED mv
Counter number
HV=1500
ID 102
Entries 1858
Mean 393.8
LED mv
HV=1600
ID 12345
Entries 729403
Mean 1159.
Counter number
HV=1600
ID 103
Entries 1858
Mean 590.7
LED mv
HV=1700
ID 12345
Entries 1118116
Mean 1153.
Counter number
HV=1700

Ratios



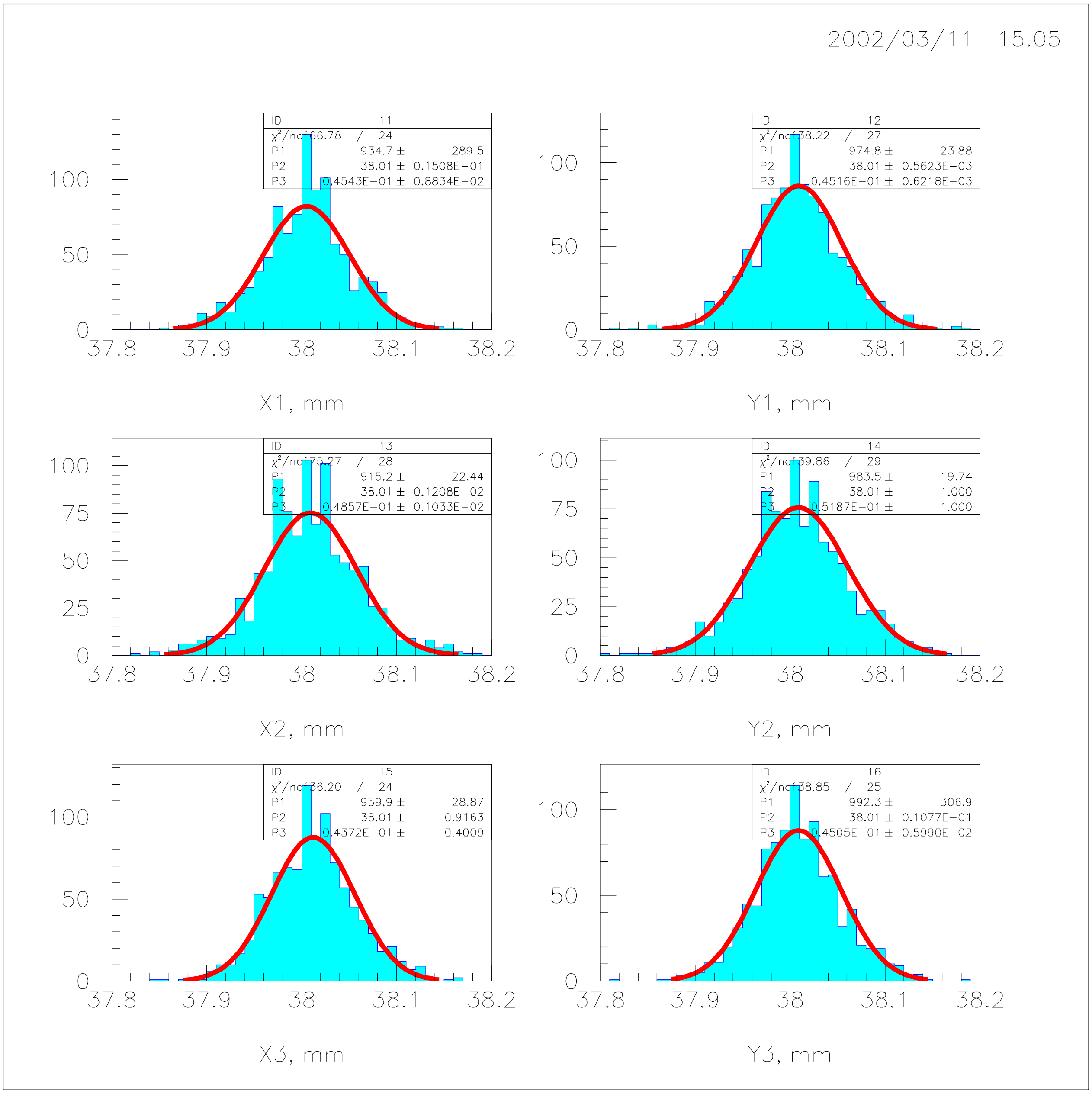
2002/03/11 15.05
Output sygnal=F(HV)
ID 201
Entries 1858
Mean 1.607
LED(HV=1600 V)/LED(HV(1500 V)
ID 202
Entries 1858
Mean 1.541
LED(HV=1700 V)/LED(HV(1600 V)
ID 203
Entries 1858
Mean 2.479
LED(HV=1700 V)/LED(HV(1500 V)

Noise

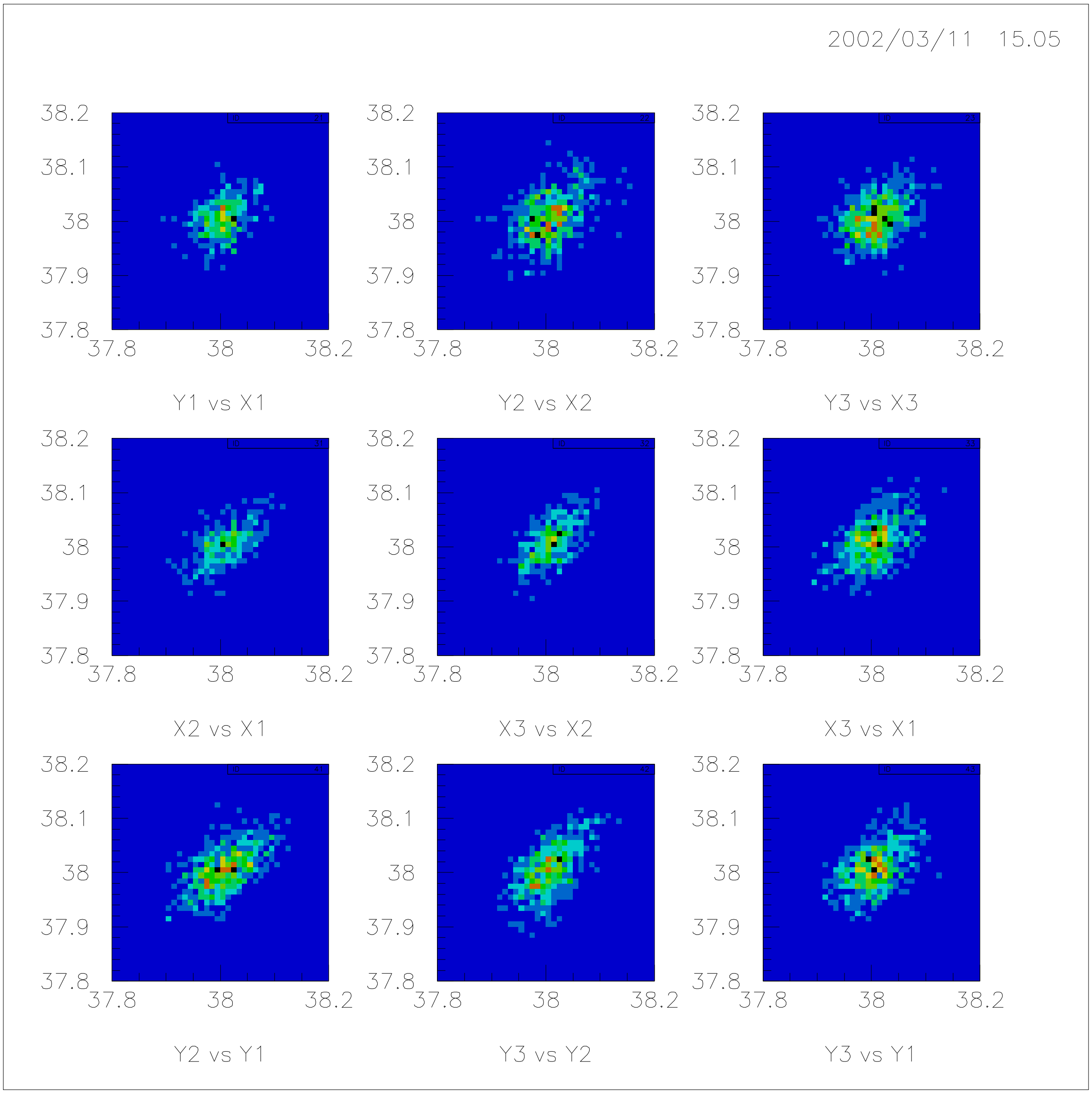


2002/03/11 15.05
Noise HV=1700 V
ID 301
Entries 1858
Mean 34.32
RMS 97.36
10^3
10^2
10
1
0
100
200
300
400
500
600
700
800
900
1000
Hz
Noise

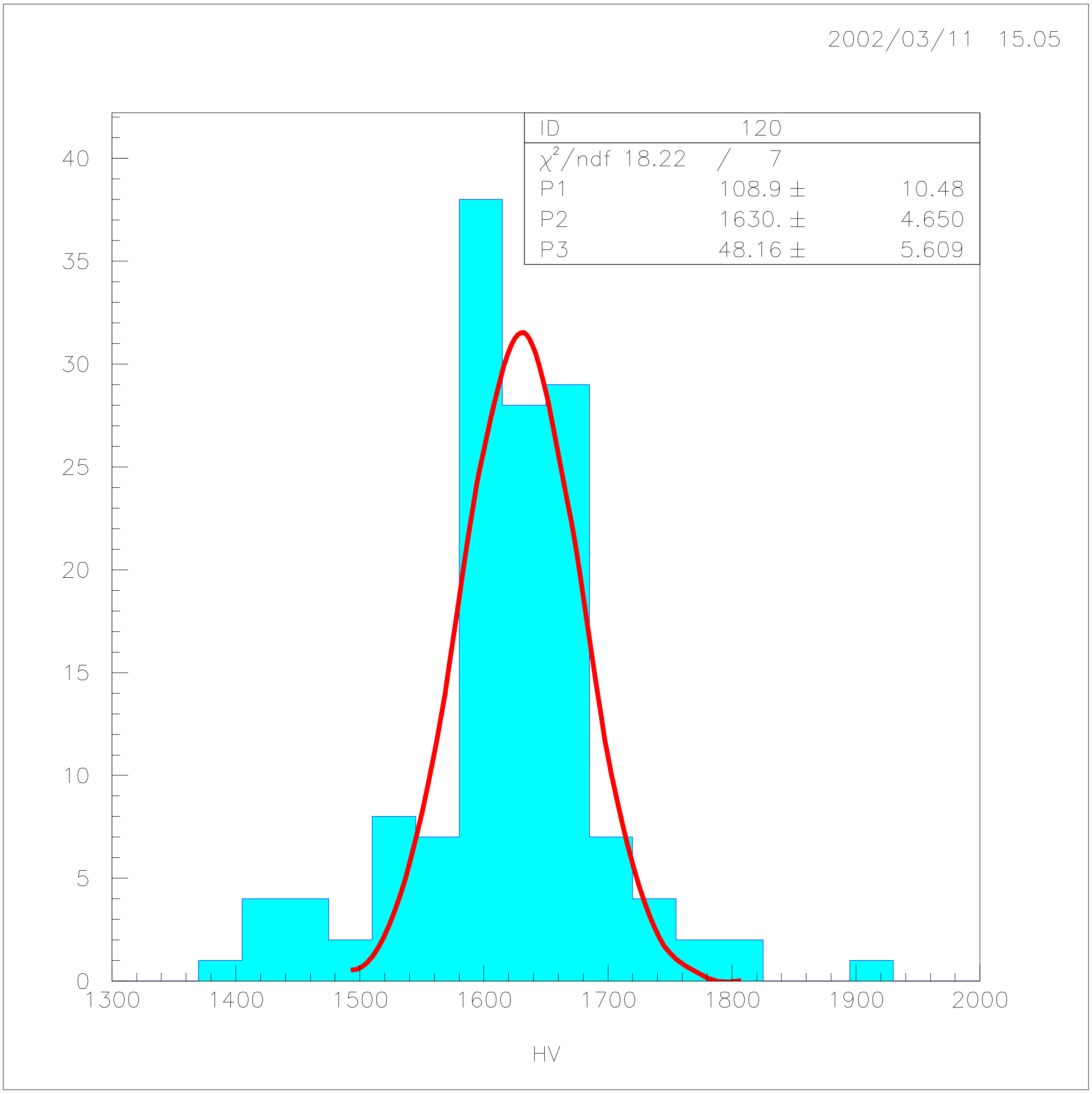
Transfers Dimensions



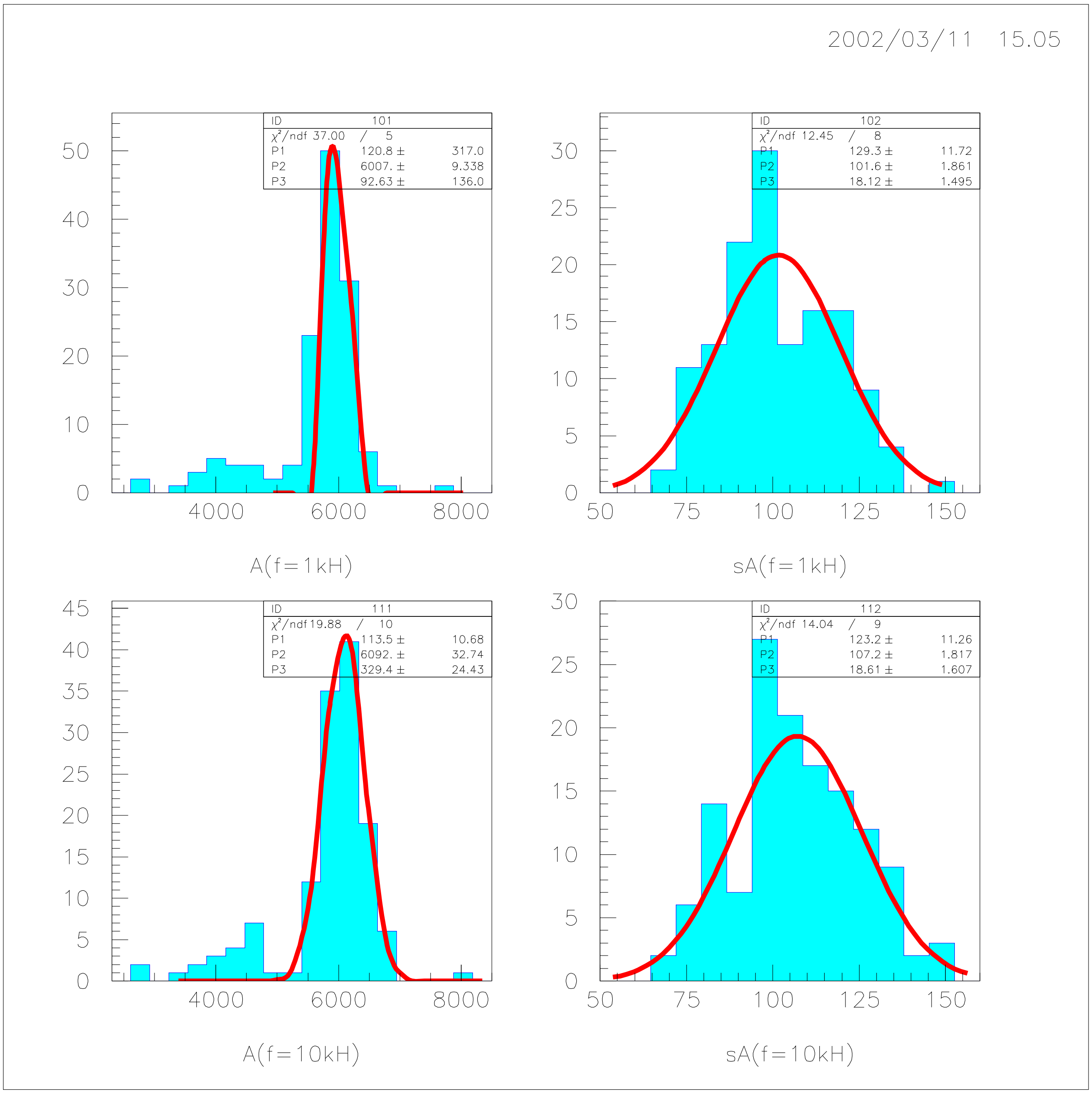
Correlations



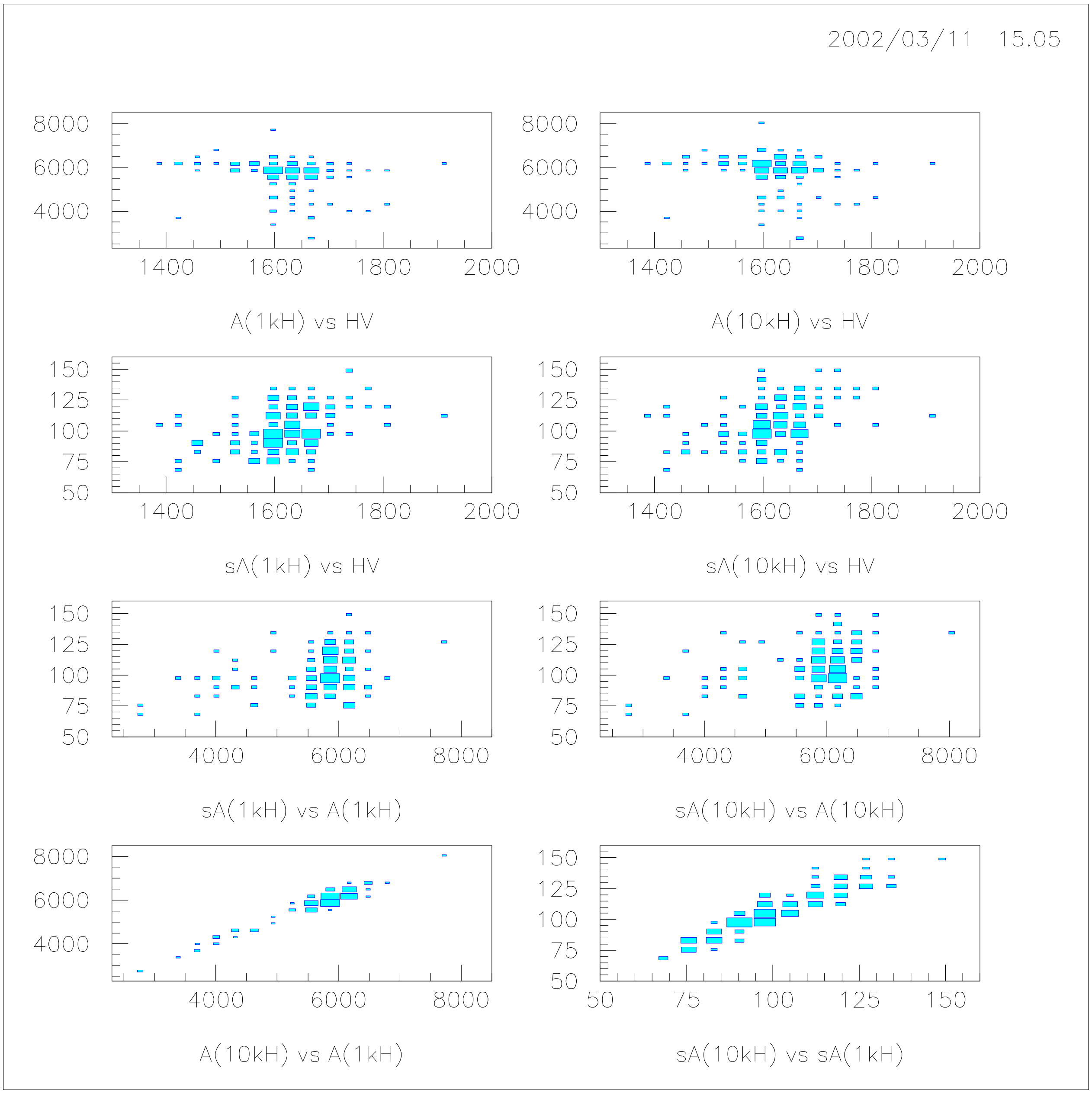
HV Distribution



PMT Amplitudes and Sigmas



Correlations



A(10 kH) vs A(1 kH)