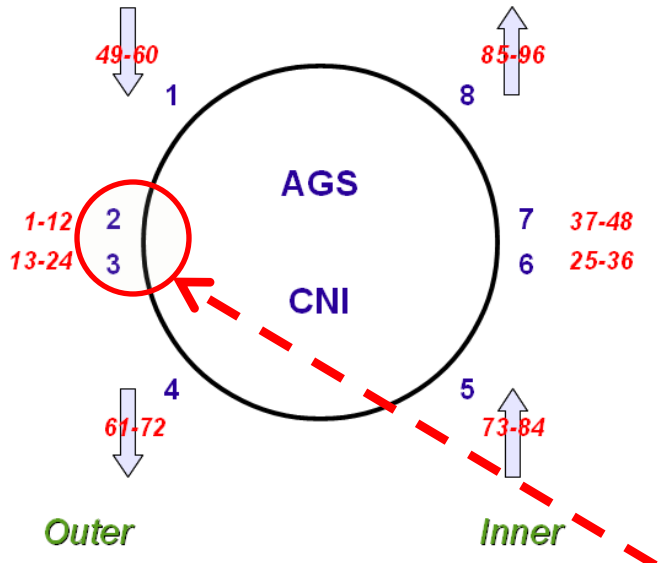
A. Poblaguev

Test of 1 mm BNL detectors at AGS

AGS CNI Polarimeter 2011

3 different detector types:



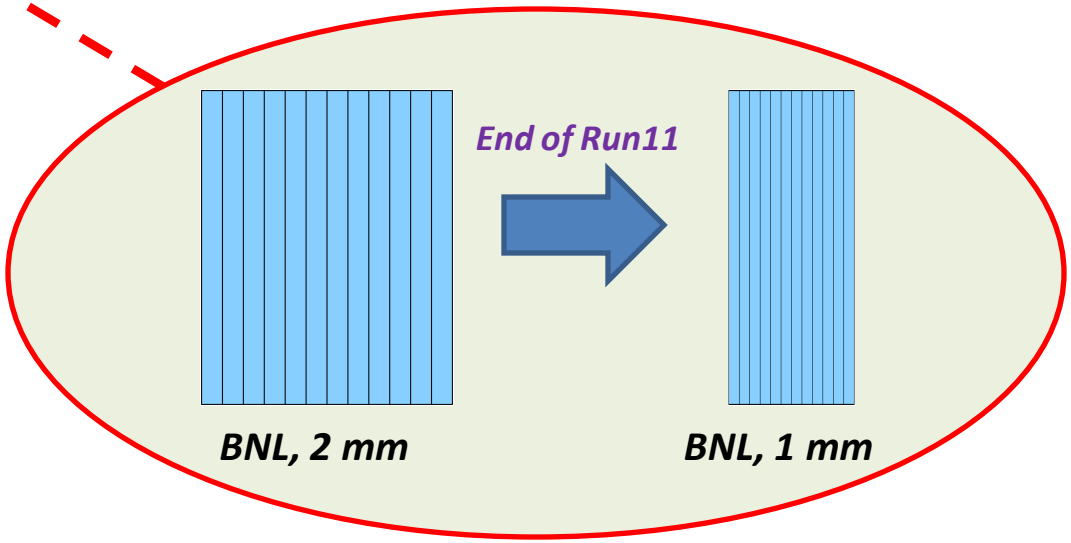
1,8 - Hamamatsu, slow preamplifiers

2,3,6,7 - BNL, fast preamplifiers

4,5 - Hamamatsu, fast preamplifiers

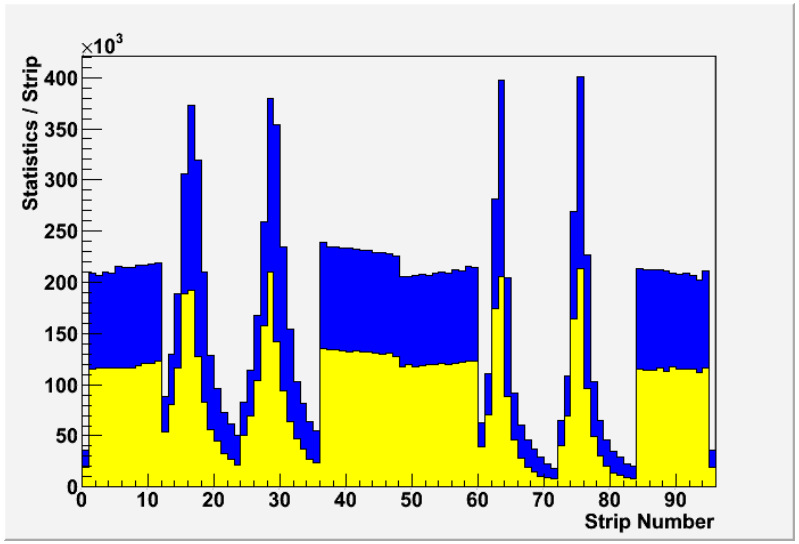
Larger length (50 cm)

Regular length (30 cm)

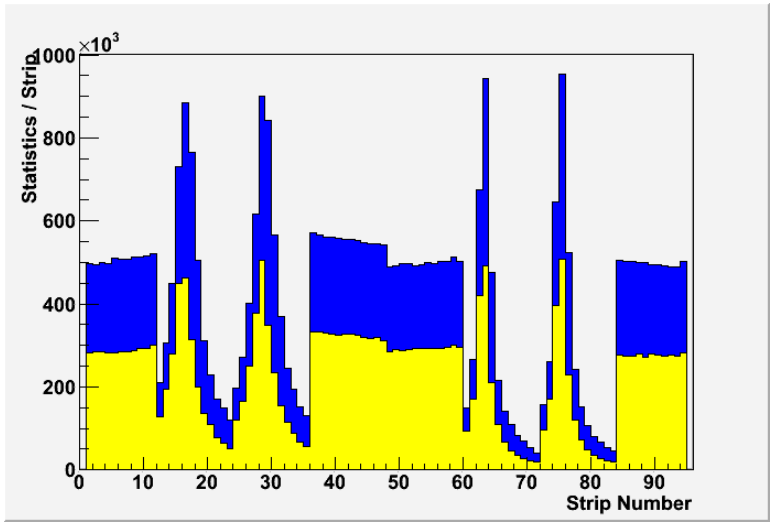


Measurements with BNL 1 mm detectors (June 29, 2011)

Run50242, Low Intensity (0.26×10^{11})



Run 50236, High Intensity (2.27×10^{11})

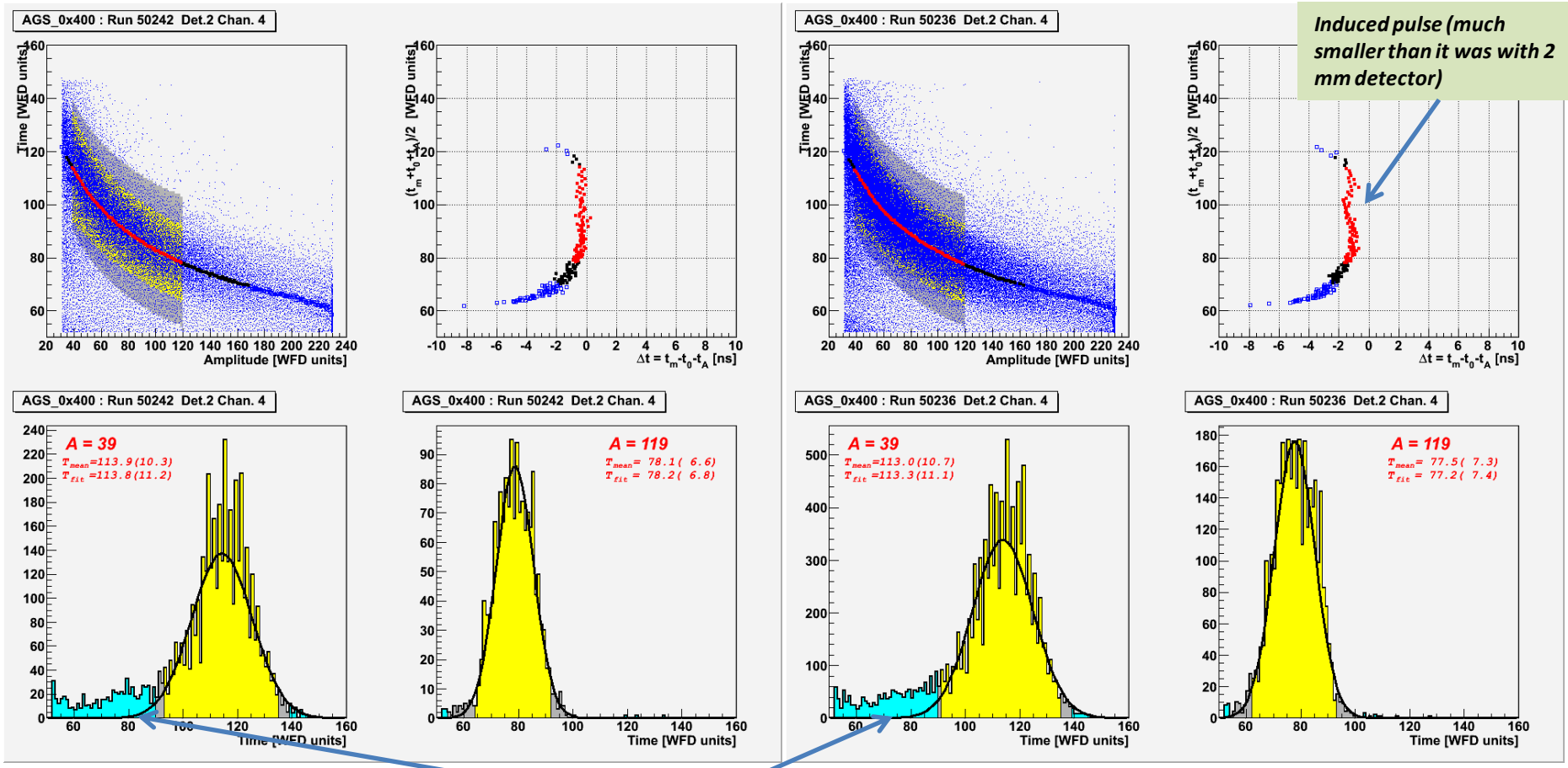


Total/Good statistics in strips

Detector 2, Chn. 4 (15) BNL 1 mm

Run50242, Low Intensity (0.26×10^{11})

Run 50236, High Intensity (2.27×10^{11})

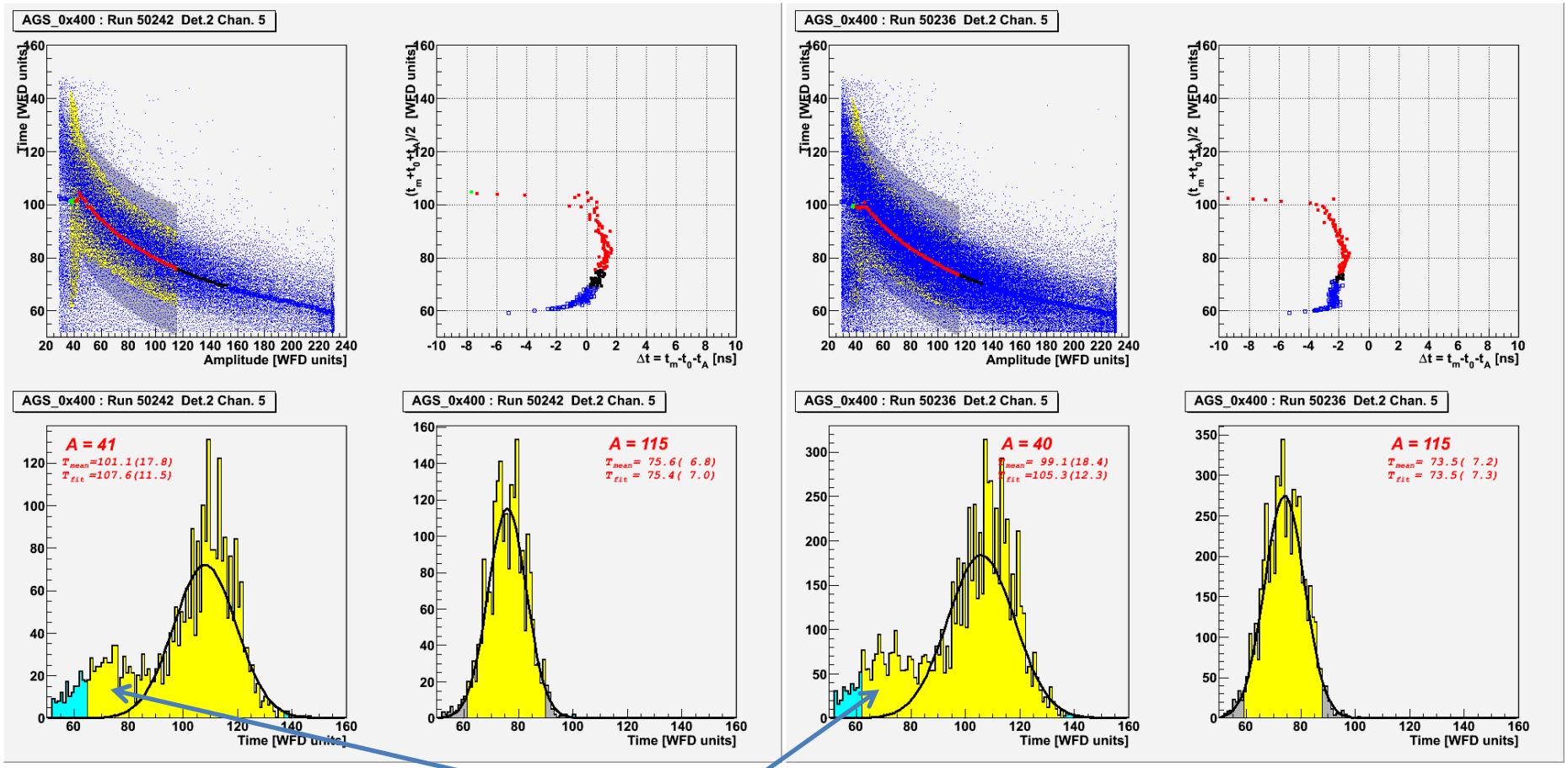


Too big background

Highest Rate Strip in the Detector

Detector 2, Chn. 5 (16) BNL 1 mm

Run50242, Low Intensity (0.26×10^{11}) *Run 50236, High Intensity (2.27×10^{11})*

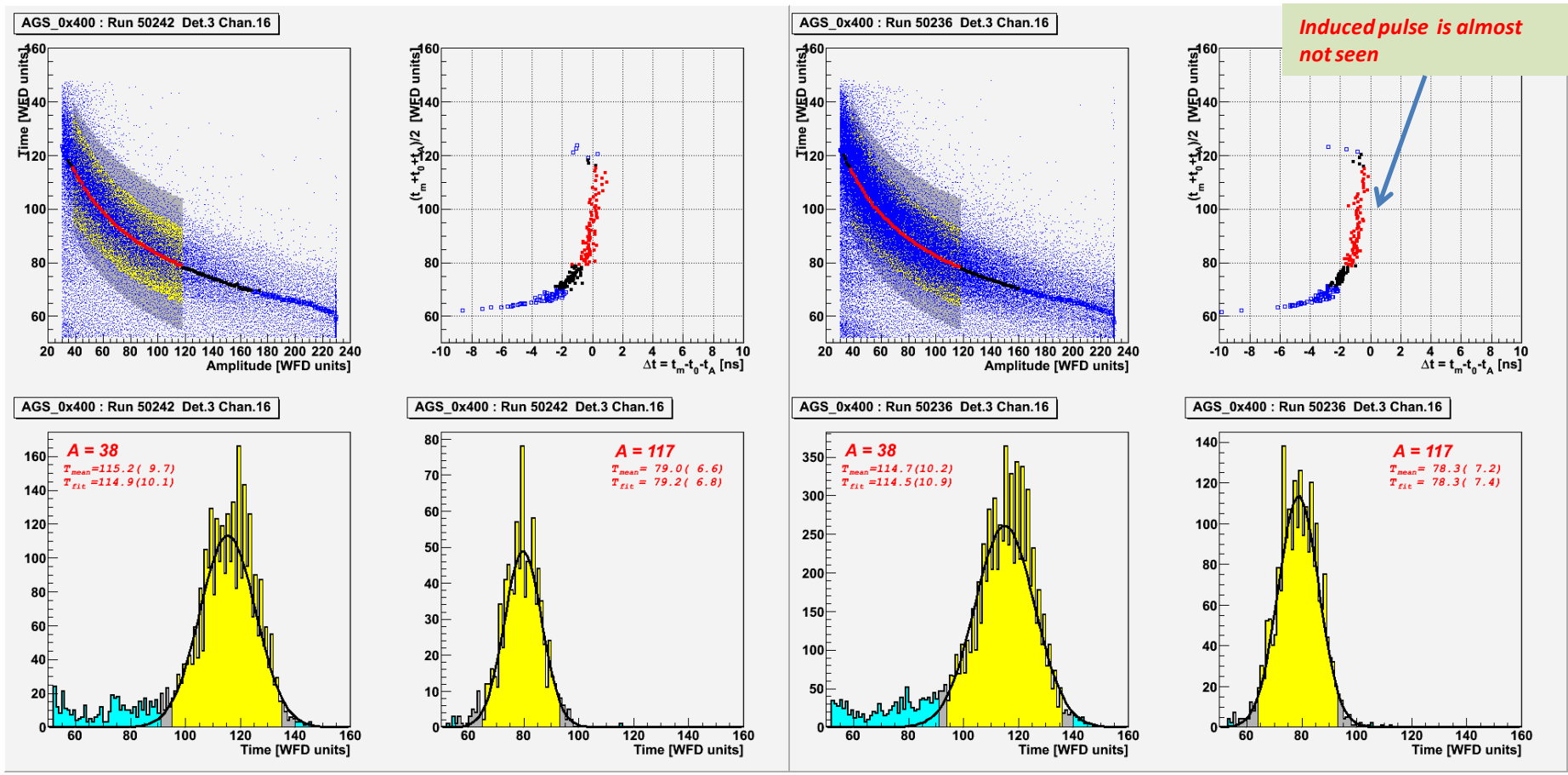


Huge background

Detector 3, Chn. 16 (27) BNL 1 mm

Run50242, Low Intensity (0.26×10^11)

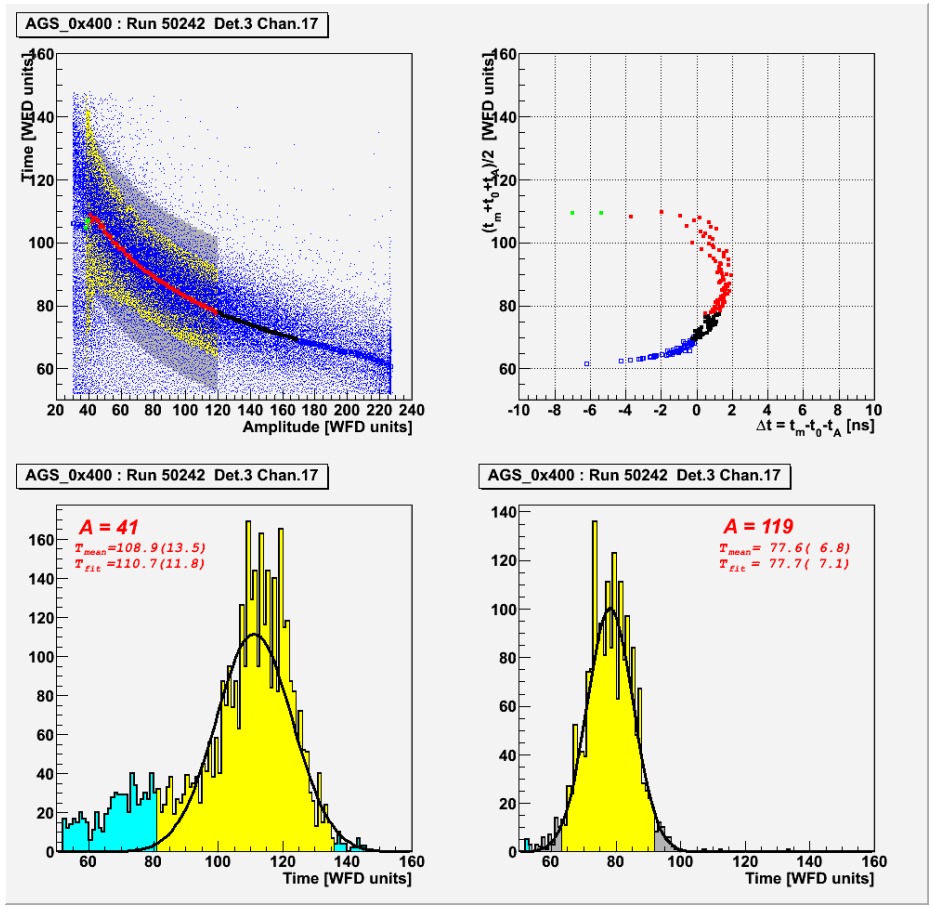
Run 50236, High Intensity (2.27×10^11)



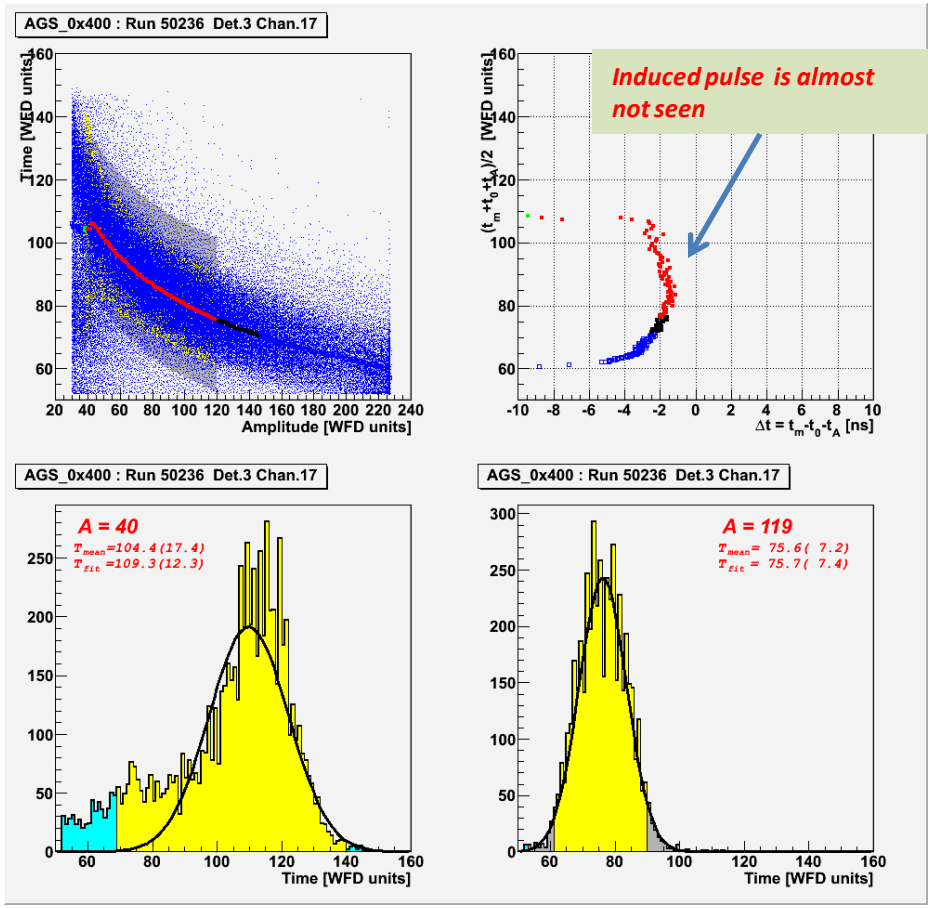
Highest Rate Strip in the Detector

Detector 3, Chn. 17 (28) BNL 1 mm

Run50242, Low Intensity (0.26×10^{11})



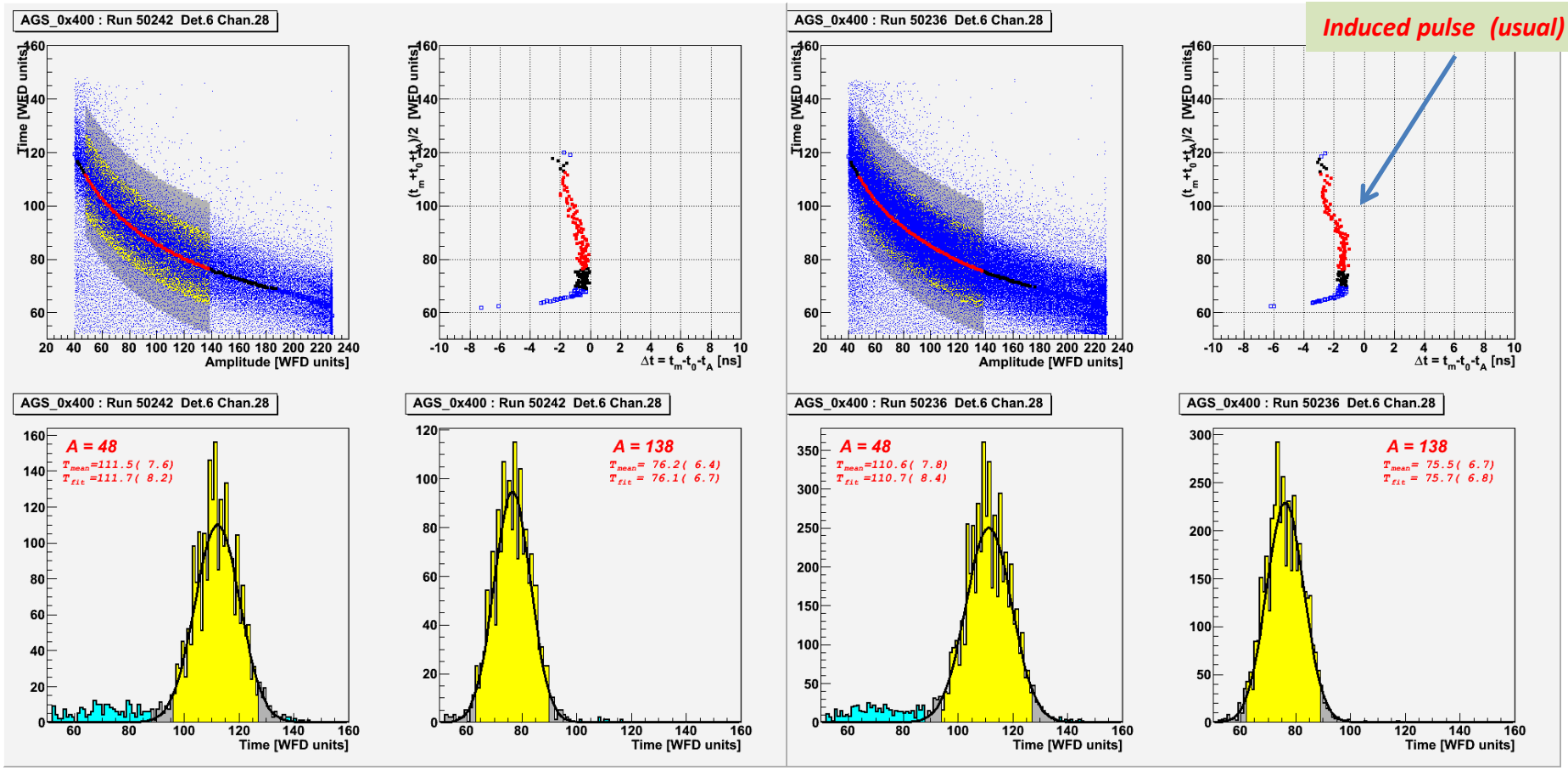
Run 50236, High Intensity (2.27×10^{11})



Highest Rate Strip in the Detector

Detector 6, Chn. 28 (63) BNL 2 mm

Run50242, Low Intensity (0.26×10^{11}) *Run 50236, High Intensity (2.27×10^{11})*

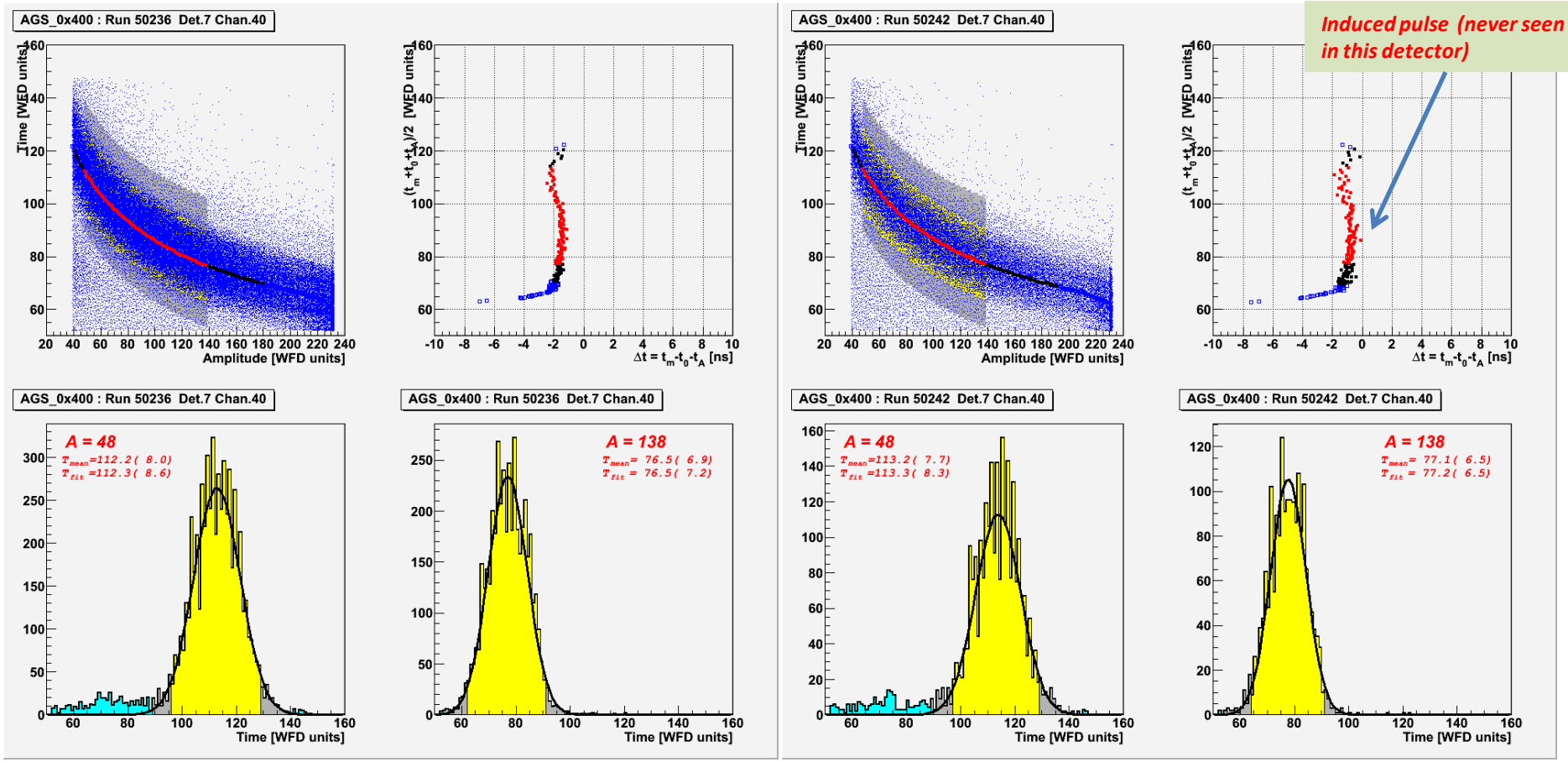


Highest Rate Strip in the Detector

Detector 2, Chn. 40 (75) BNL 1 mm

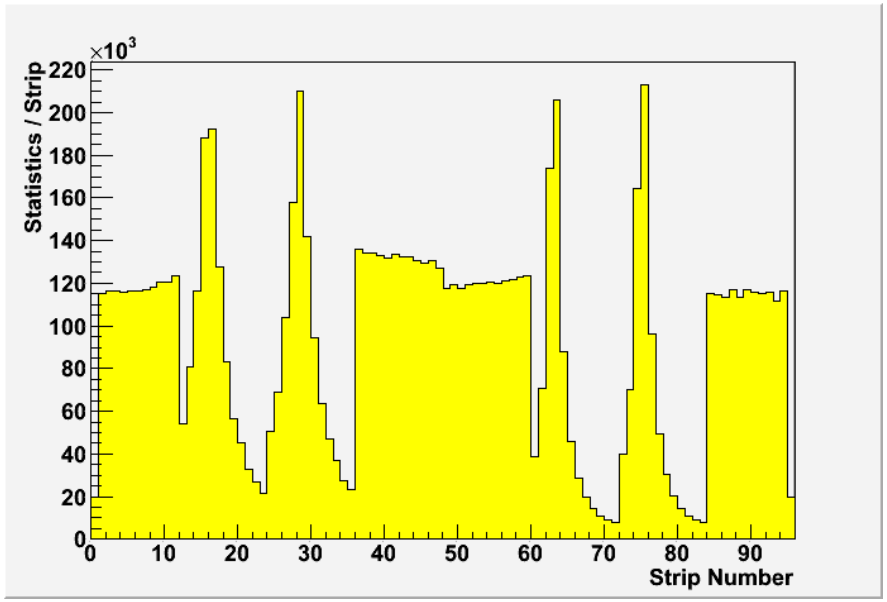
Run50242, Low Intensity (0.26×10^{11})

Run 50236, High Intensity (2.27×10^{11})

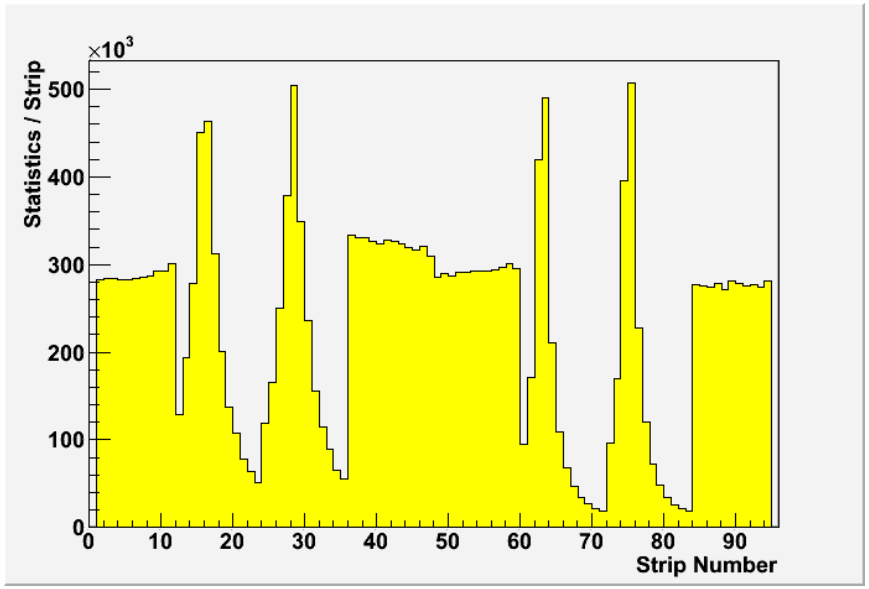


Compare Statistics in 1mm/2mm detectors

Run50242, Low Intensity (0.26×10^{11})



Run 50236, High Intensity (2.27×10^{11})



- *Pictures are similar. Intensity dependence is the same in all strips*
- *We do see that strip spacing was reduced in Detectors 2 and 3*
- *Why peak intensity is the same in 1 mm and 2 mm detectors ?*

Good (Total) Statistics,
(millions events)

Run	Det 1 (1mm)	Det 2 (1mm)	Det 6 (2mm)	Det 7 (2 mm)
50236	2.46 (4.83)	2.48 (4.88)	1.71 (3.22)	1.74 (3.29)
50242	1.03 (2.03)	1.03 (2.05)	0.71 (1.36)	0.73 (1.39)