

**Oct 2007**

**Data type:** 3 processors on BPM 12

**Magnet;** ZV7X

**Scope channels:**    **scope 1**    **scope 2**

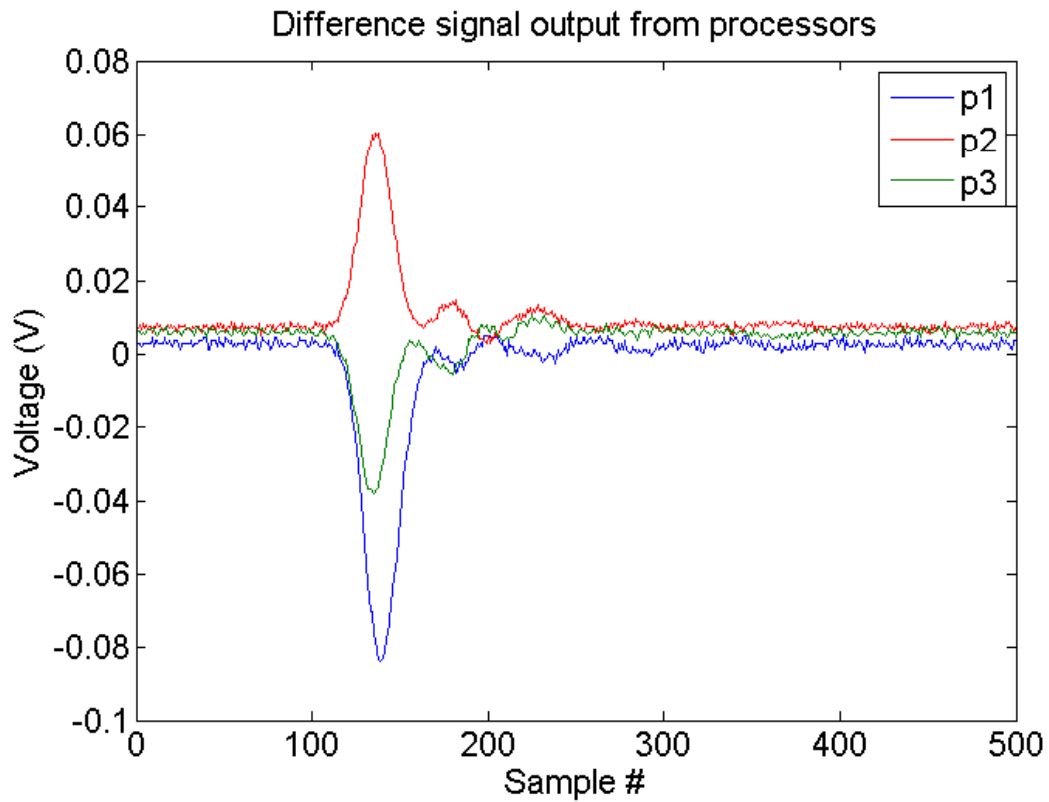
**ch1** p1 (diff)    p3 (diff)

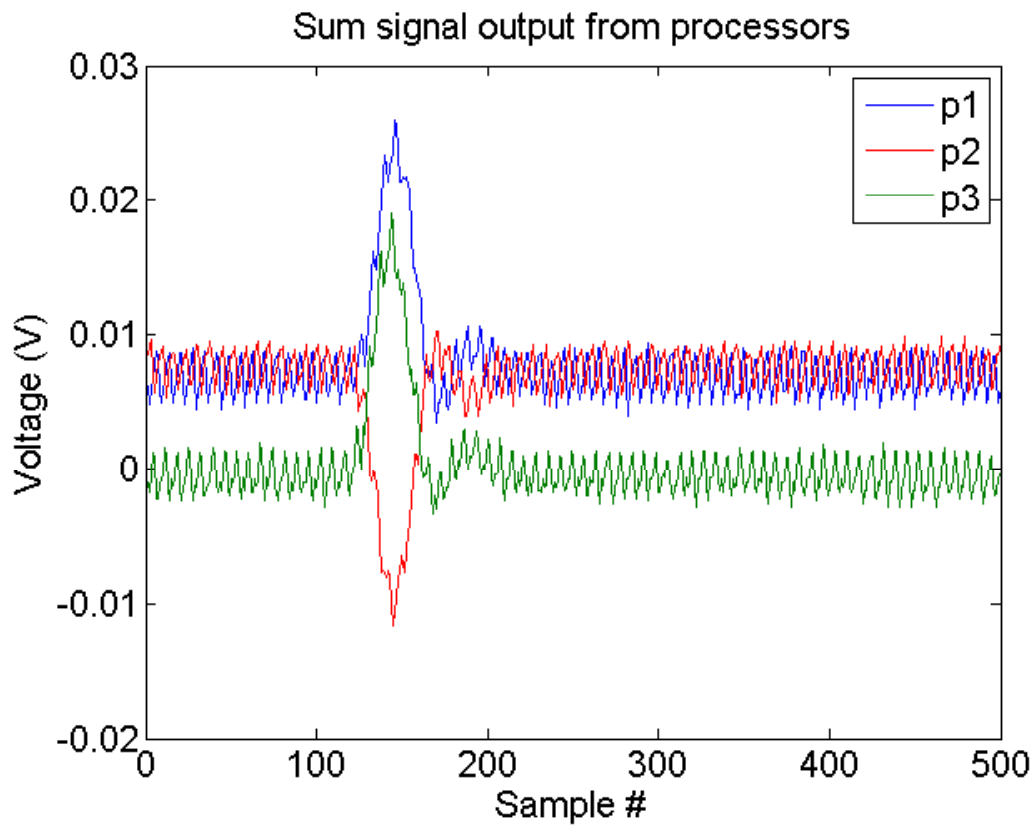
**ch2** p1 (sum)    p3 (sum)

**ch3** p2 (diff)    p1 (sumQ)

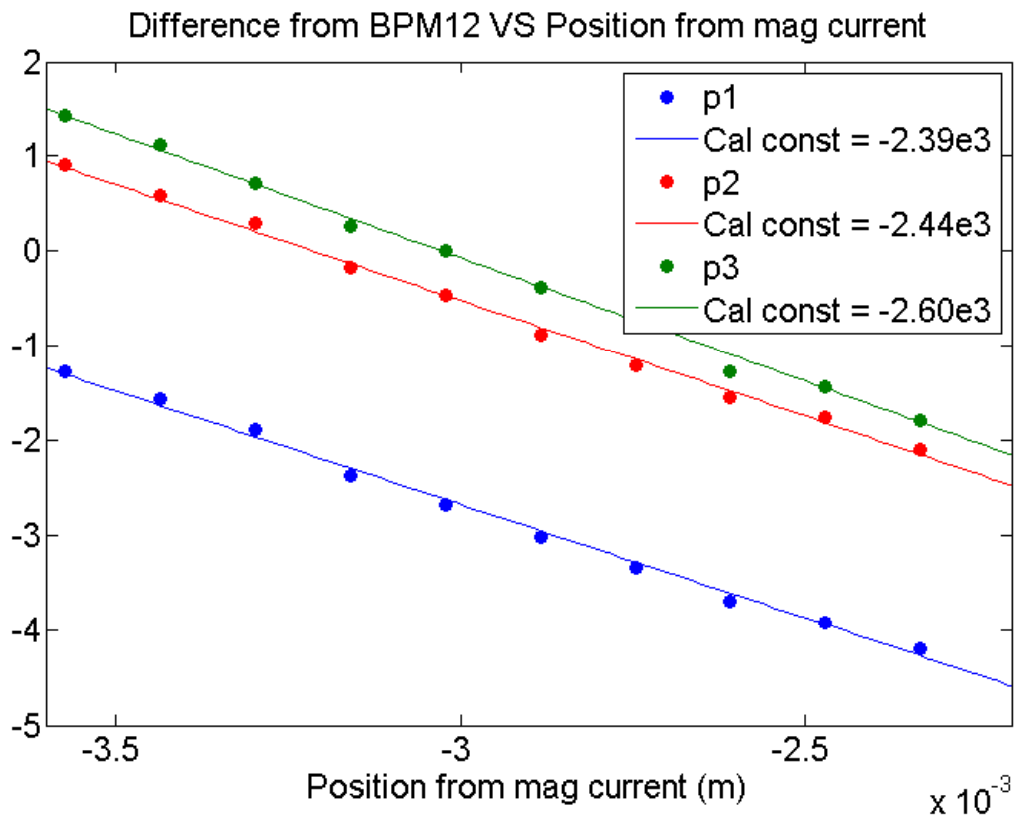
**ch4** p2 (sum)    p2 (sumQ)

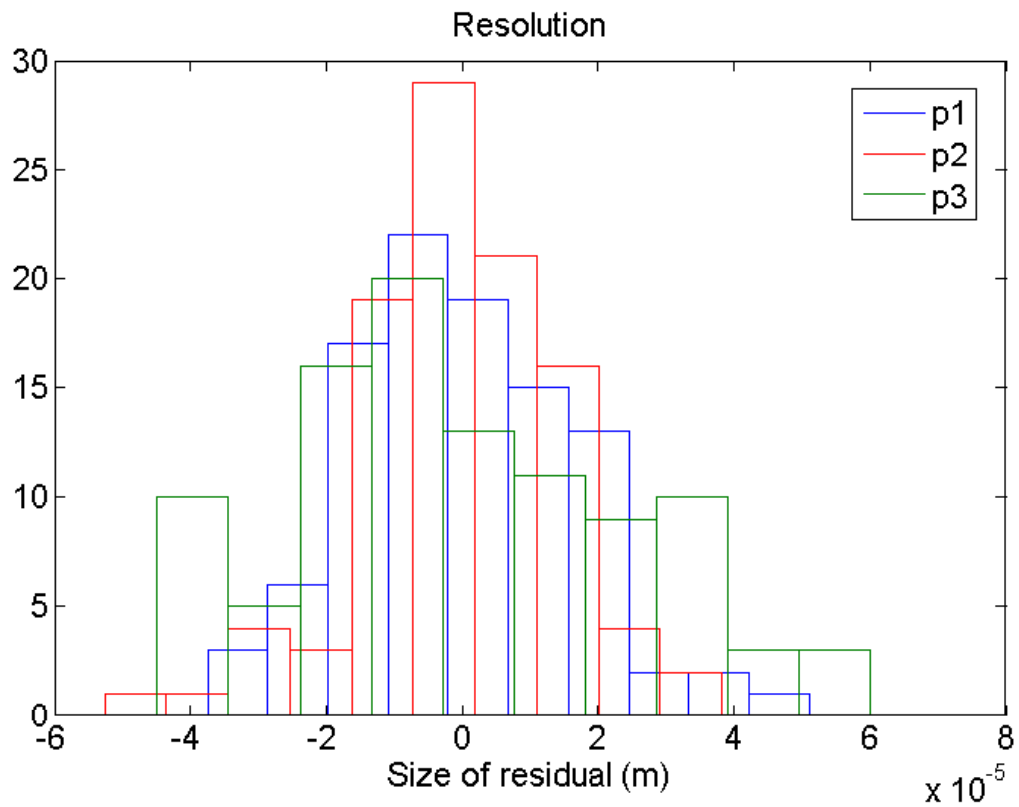
**Processor signals:**





### Calibration & Resolution for Window size = 100





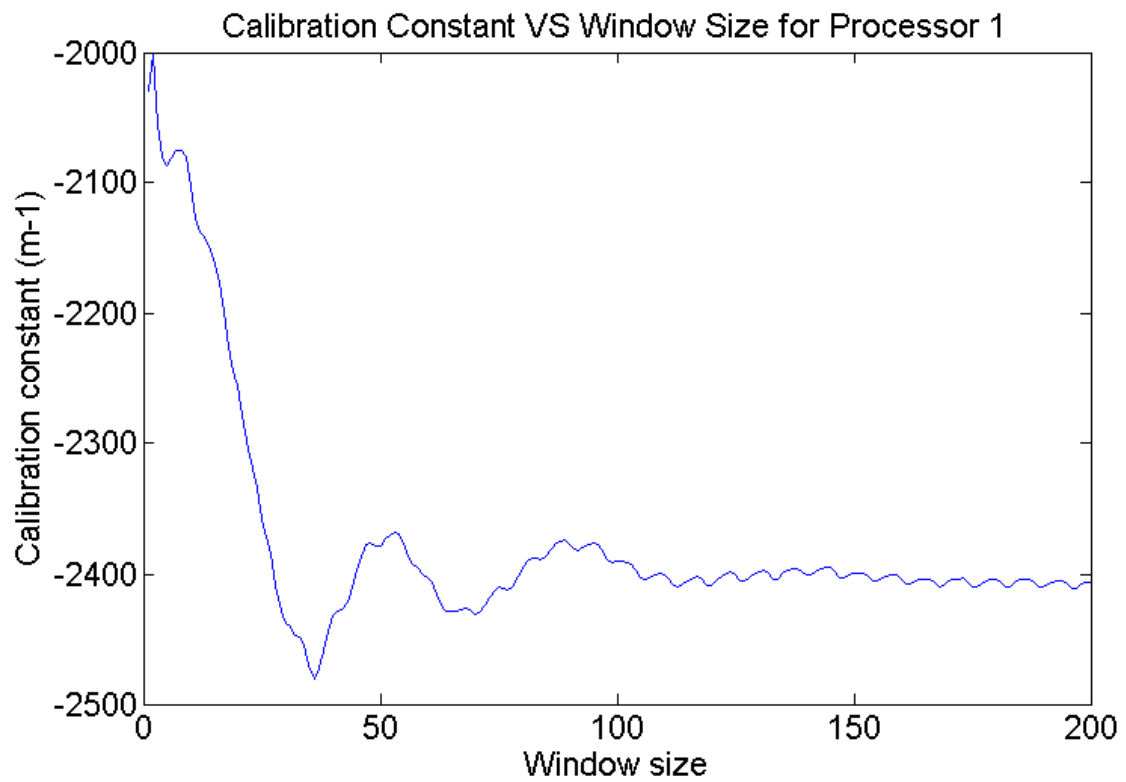
The calculated resolution of the system is:

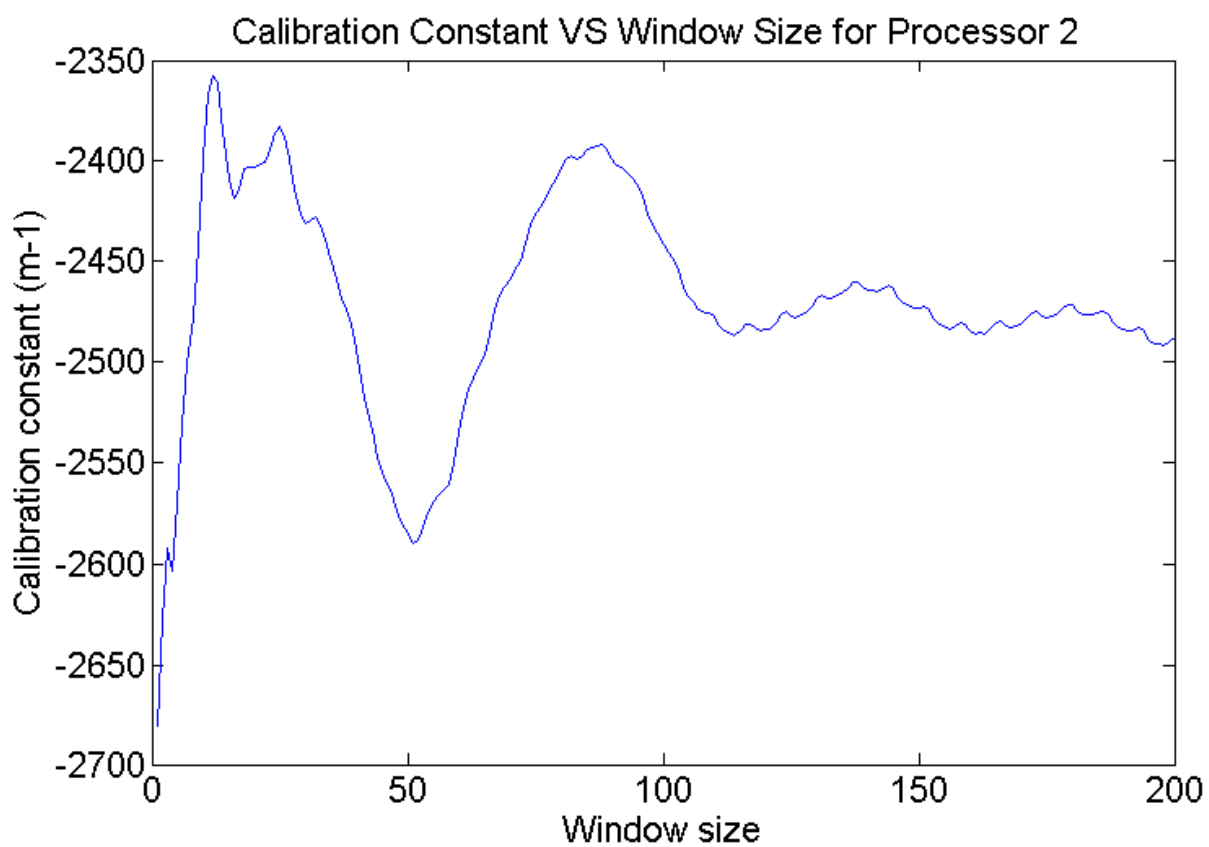
P1 = 15.8um

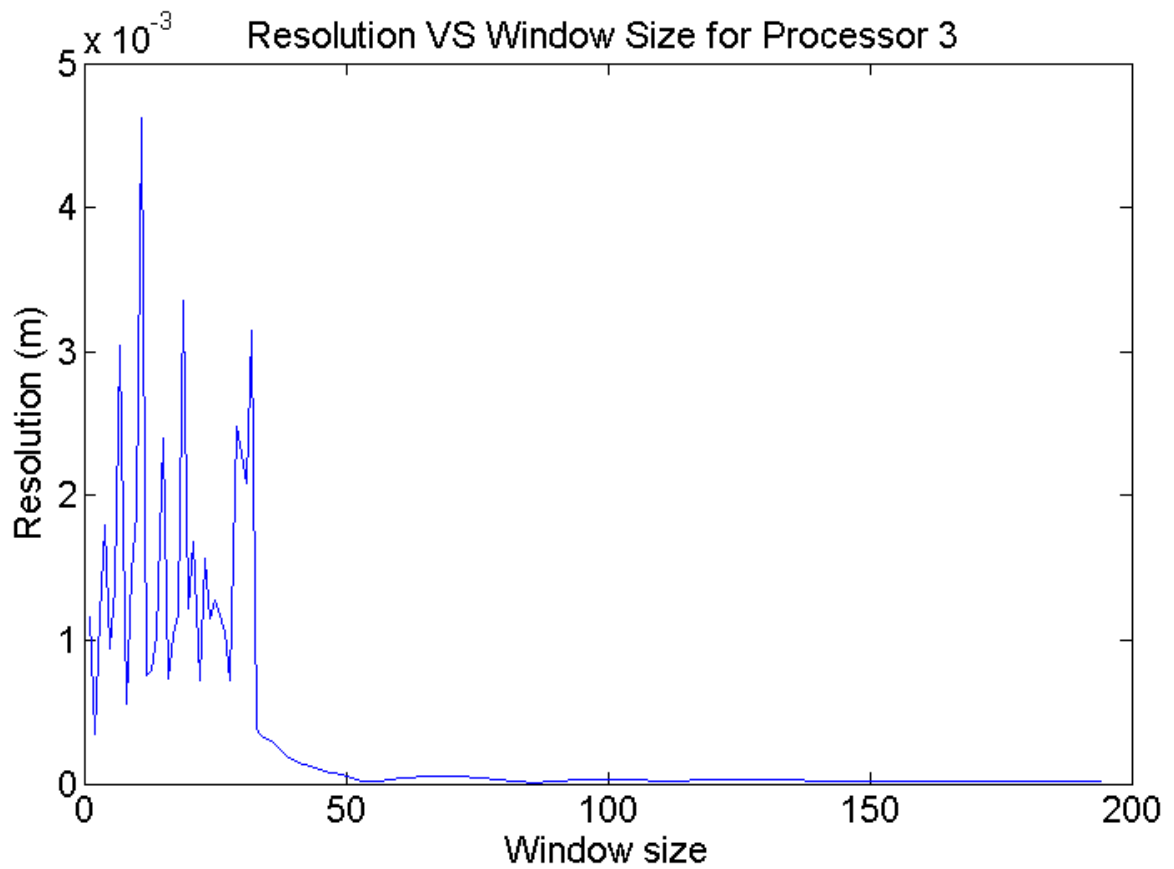
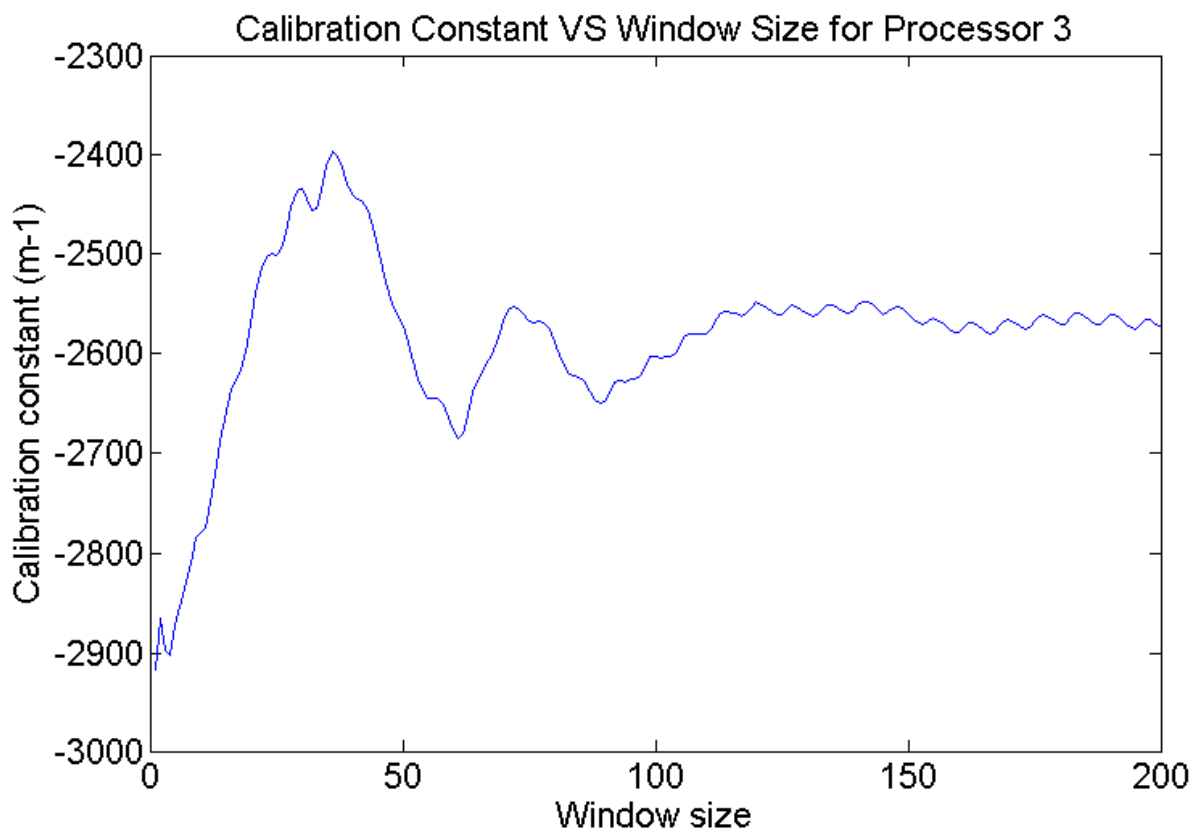
P2 = 14.8um

P3 = 24.8um

## Calibration & resolution VS integration window size



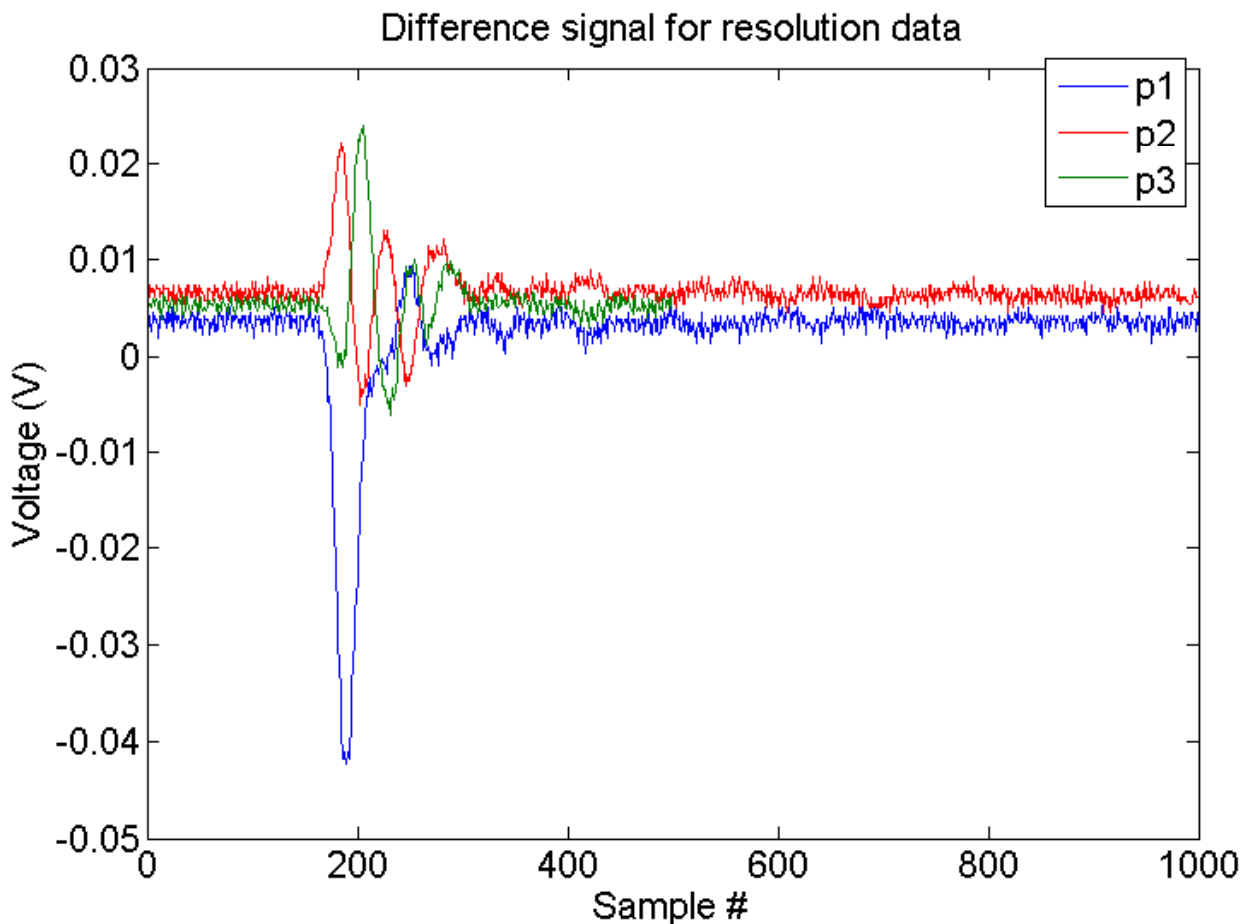




## Problems

The processor signals through out the calibration and resolution measurements had some signal after the peak. This is illustrated by the signals from processors two and three in the plot below. This may be a contributory factor to the poor resolution attained from this experiment.

The plot below shows a further problem in that the peak value of the signal from processor one is much more extreme than that of the other two. This may also have an effect on the resolution of the system.



Dec 2007

**Data type:** Calibration with all 4 processors on BPM 12

**Magnet:** ZV7X

**Scope channels:**    **Scope 1**    **Scope 2**

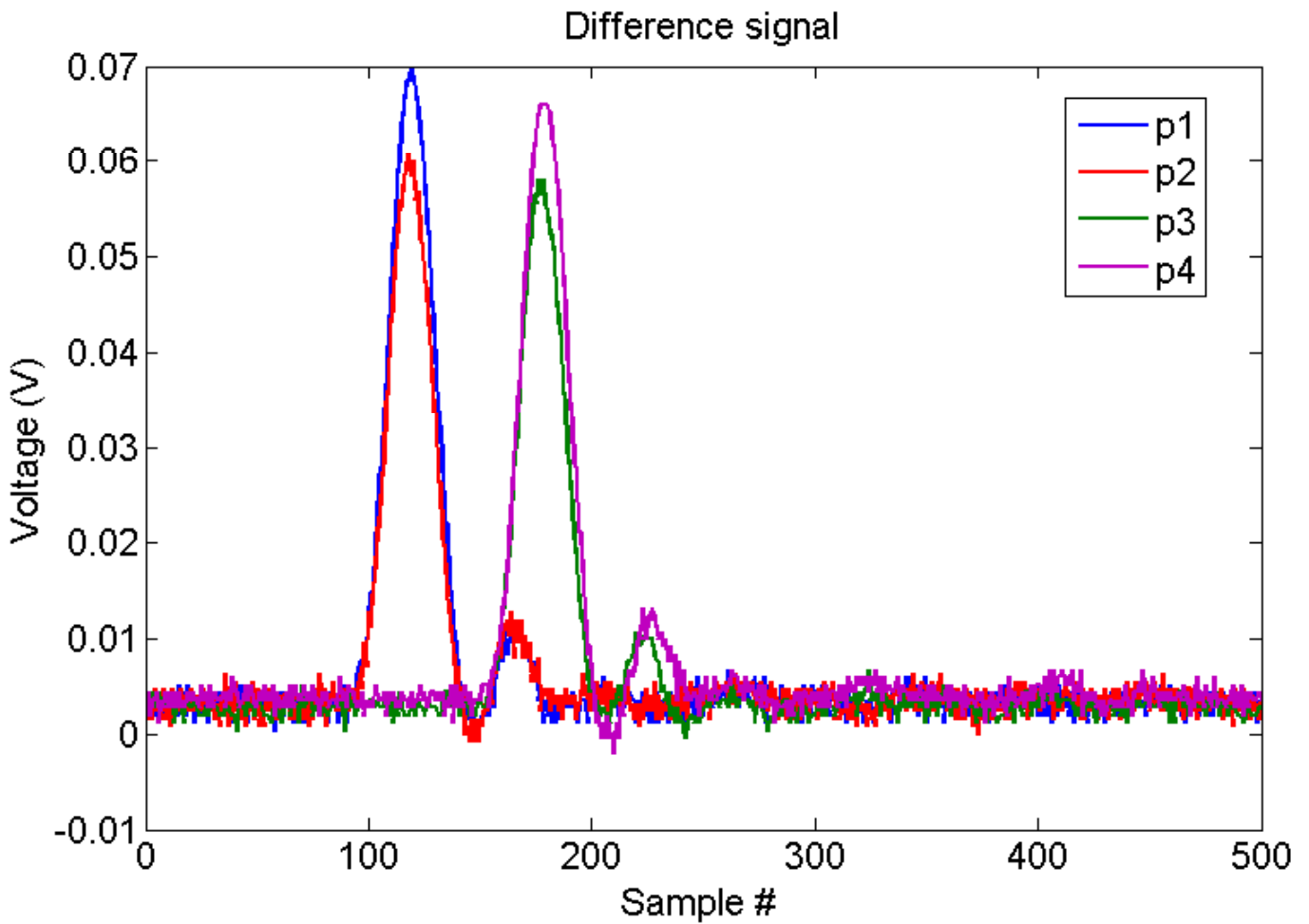
**Ch1** P1 (Diff) P3 (Diff)

**Ch2** P1 (sum) P3 (sum)

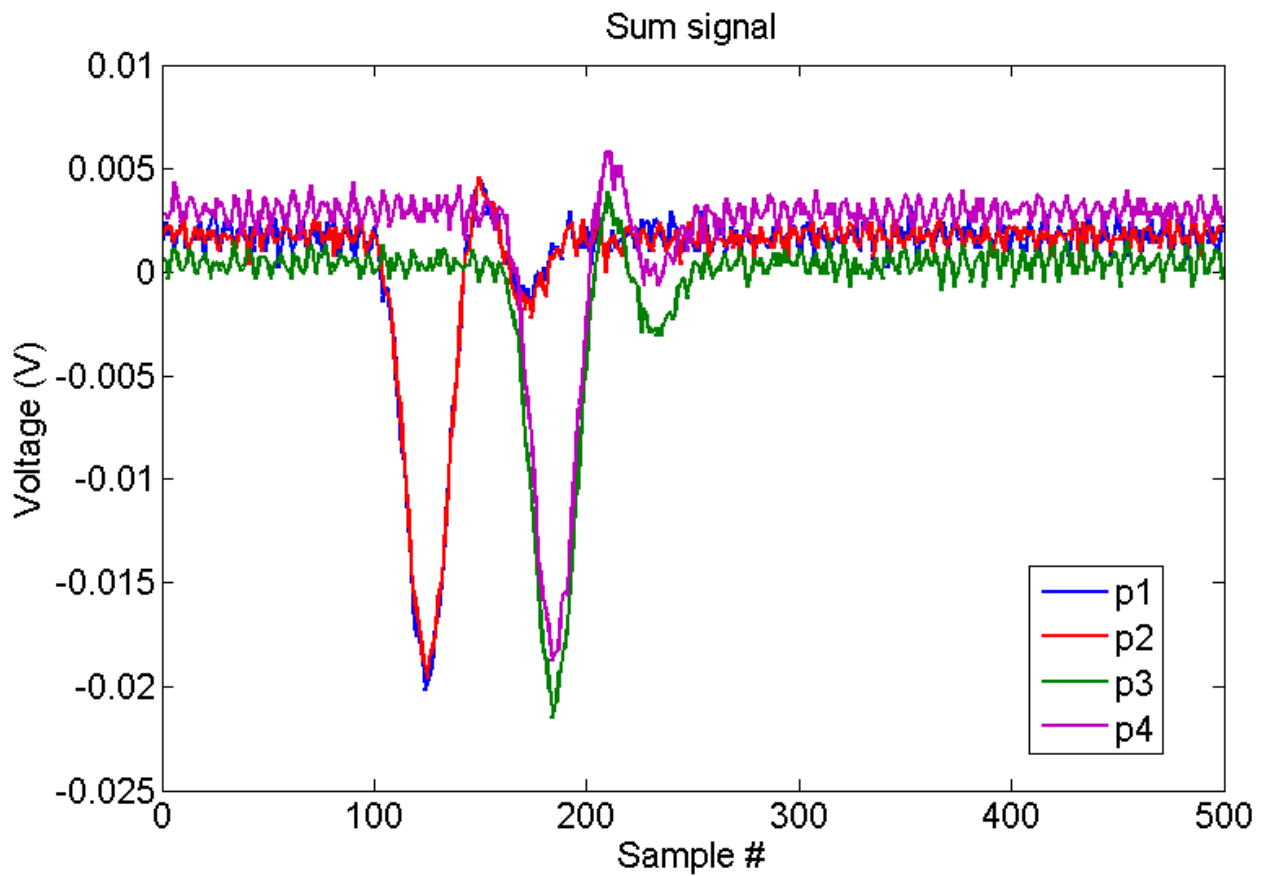
**Ch3** P2 (Diff) P4 (Diff)

**Ch4** P2 (sum) P4 (sum)

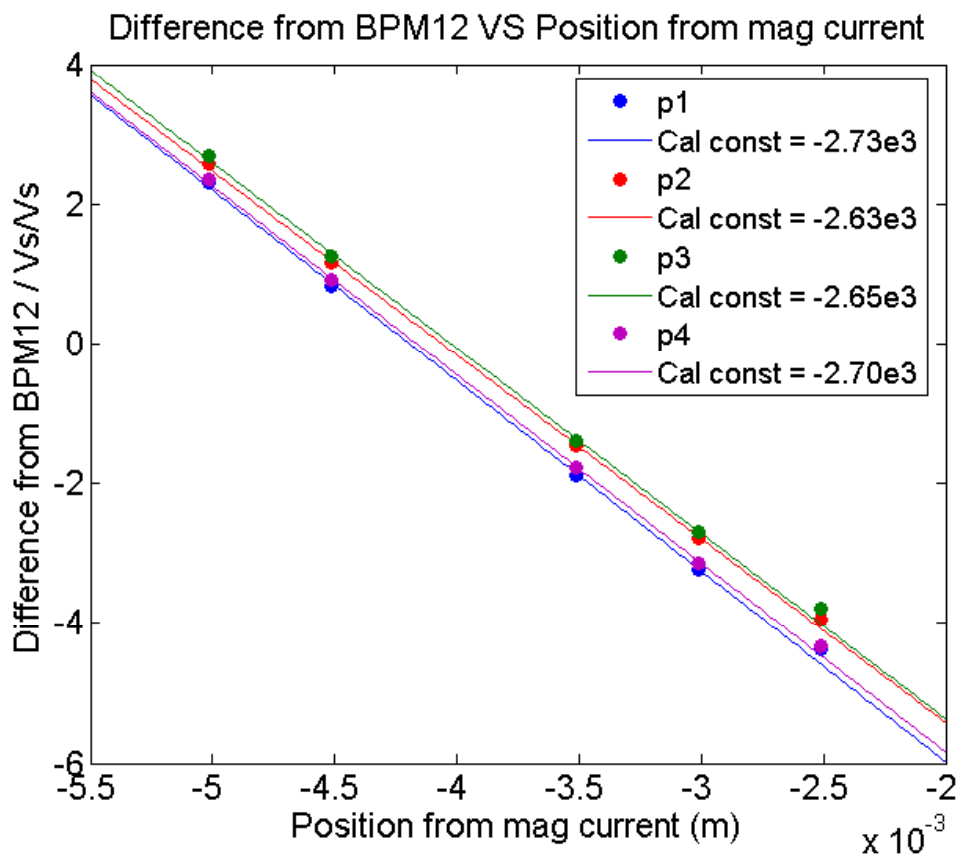
**Processor signals:**

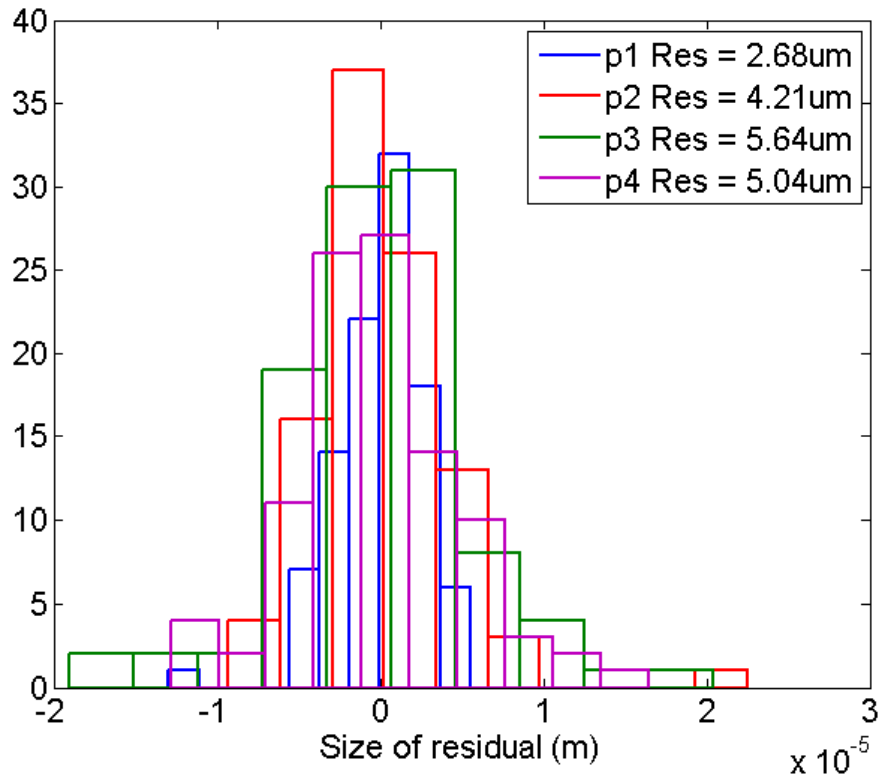




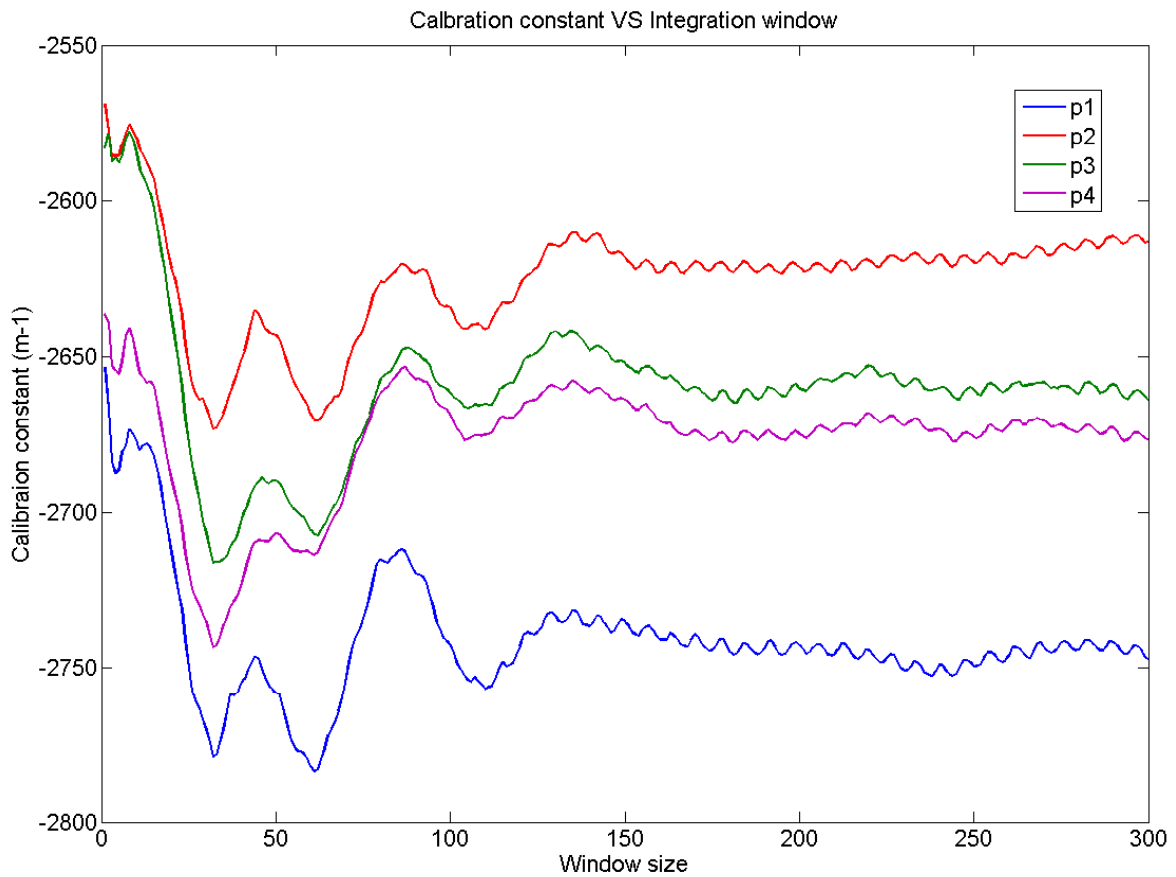


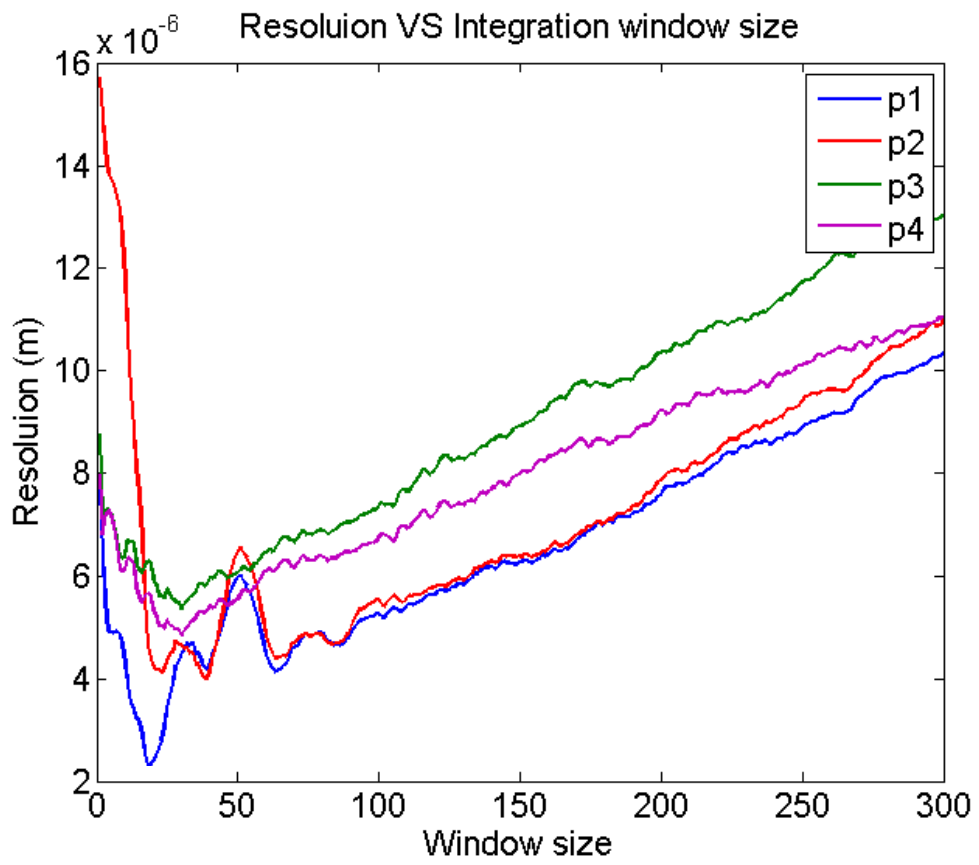
### Calibration & Resolution for Window size = +/- 22





### Calibration & resolution VS integration window size





**March 2008**

**Data type:** Calibration / resolution data for 4 processors on BPM 10

**Magnet:** ZV8X

**Scope:**        **scope1**        **scope 2**

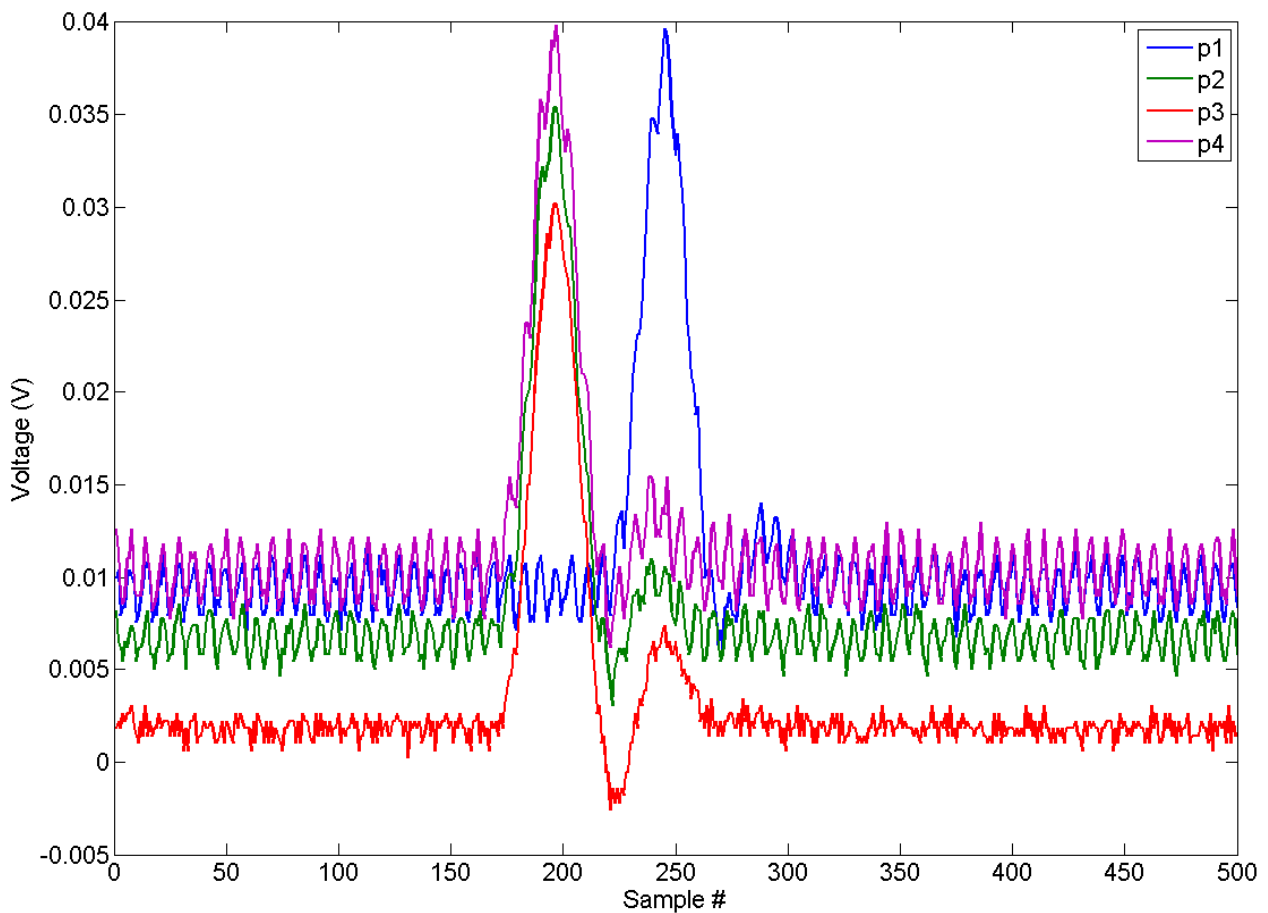
**ch1** p1 (sum)    p2 (sum)

**ch2** p1 (diff)   p4 (sum)

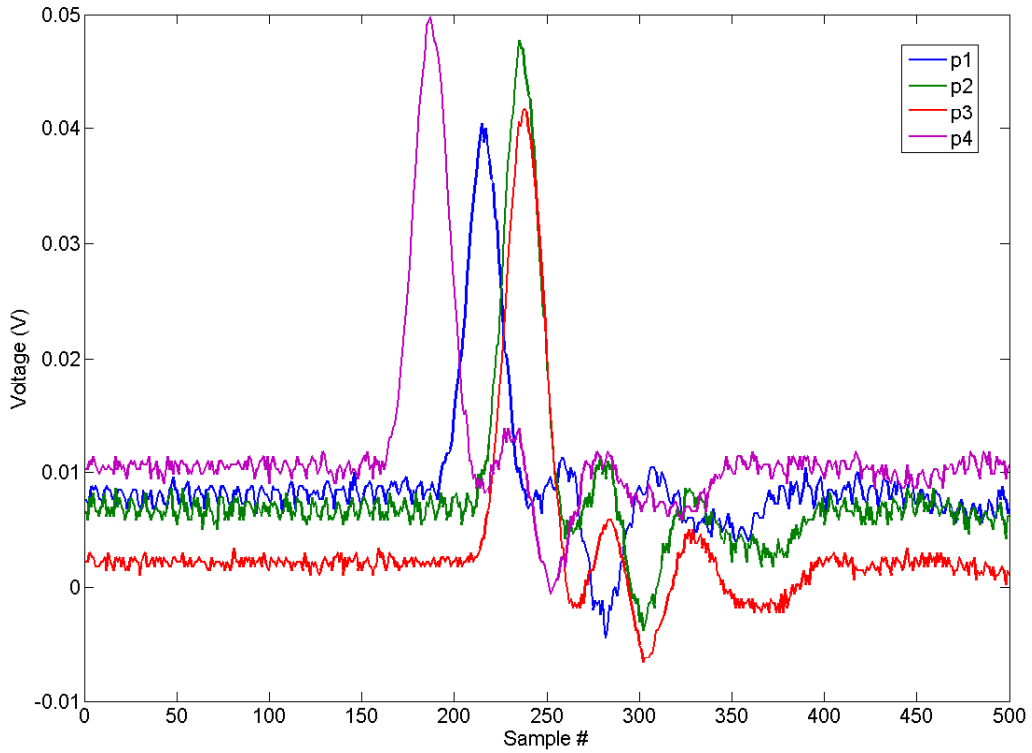
**ch3** p2 (diff)   p3 (sum)

**ch4** p3 (diff)   p4 (diff)

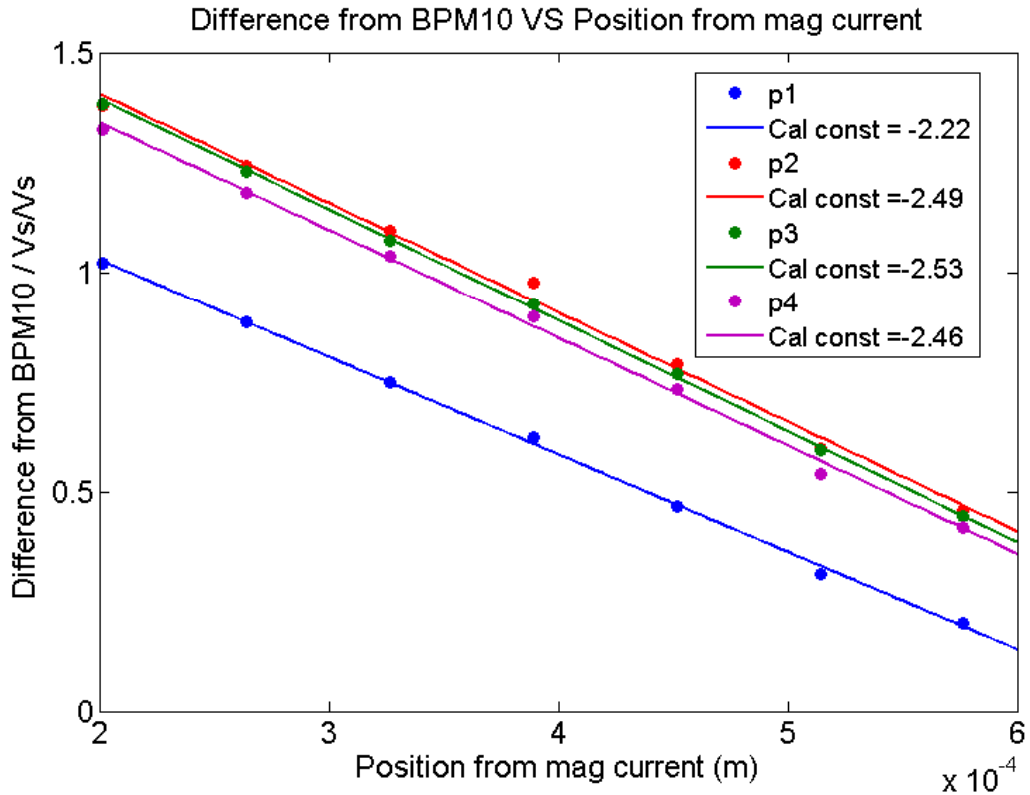
**Sum signals**

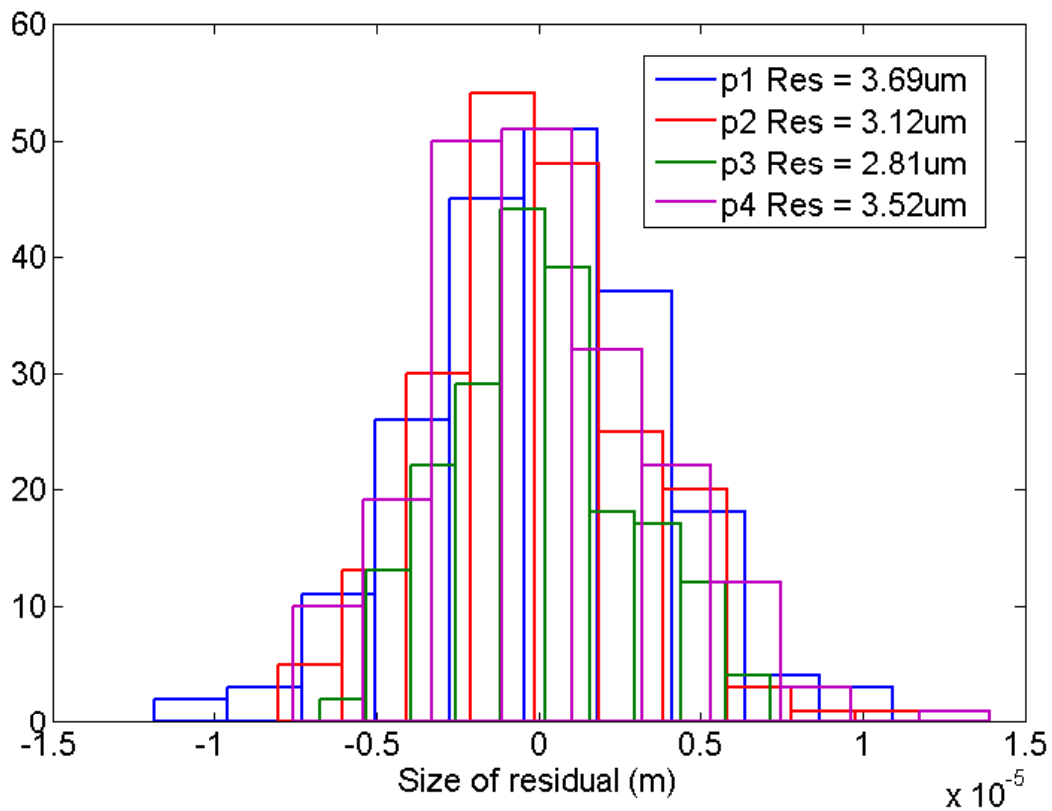


## Difference signals

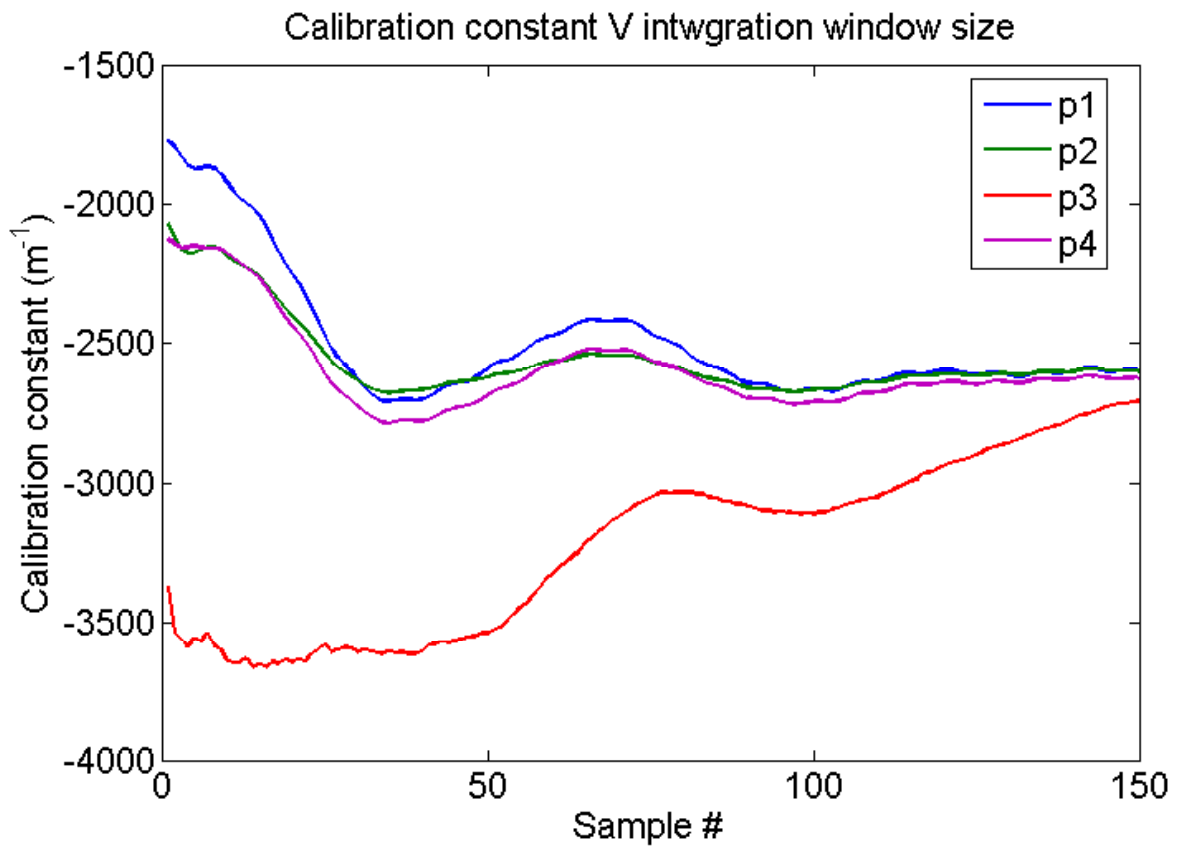


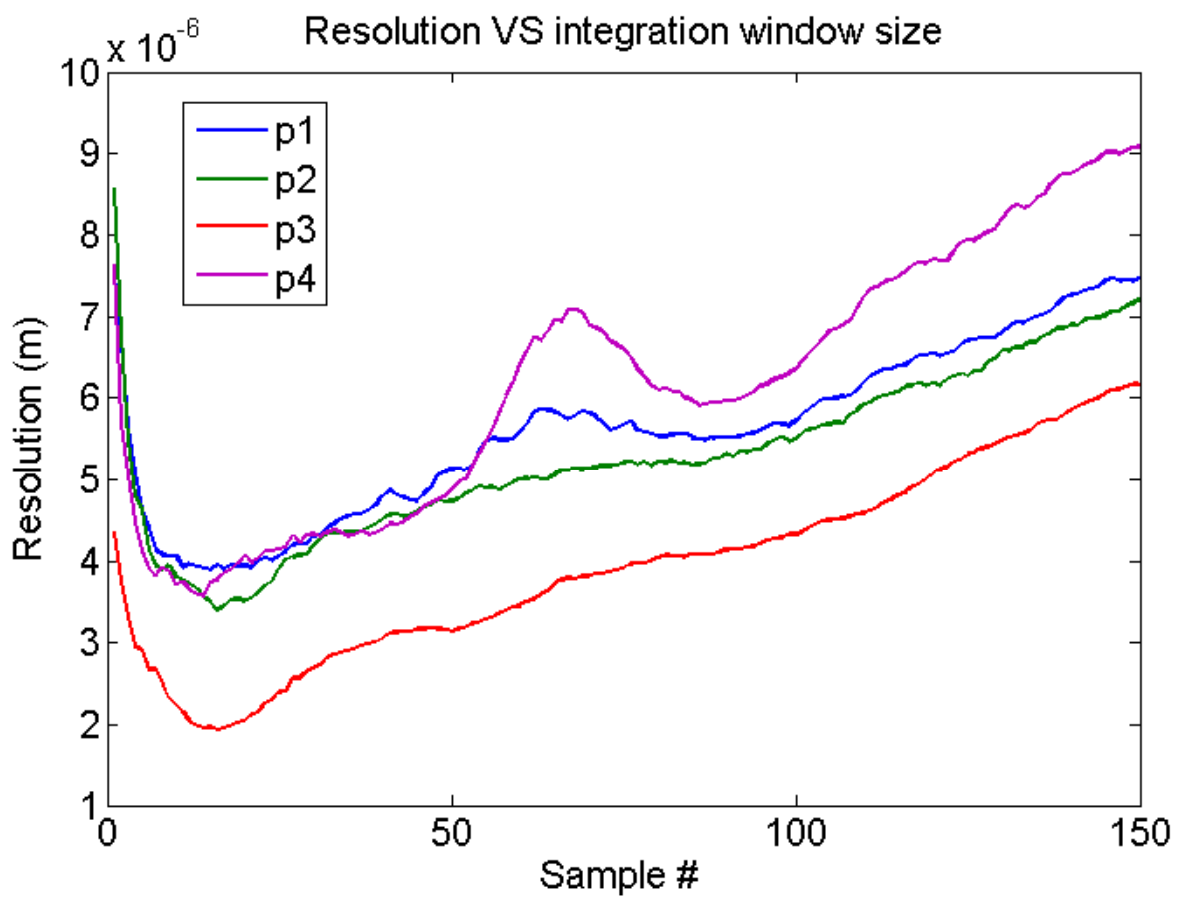
## Calibration and resolution calculation for integration window +/- 16 samples





**Calibration & resolution VS integration window size**





**May 2008**

**Data type:** Single bunch train calibration / resolution with stripline split 4 ways to p1,2&3 and raw strips. p1 output split with 1/2 into digital board.

**Magnet:** ZV8X

**Charge:** 0.9e10

**Scope:**        **scope 1**    **scope 2**

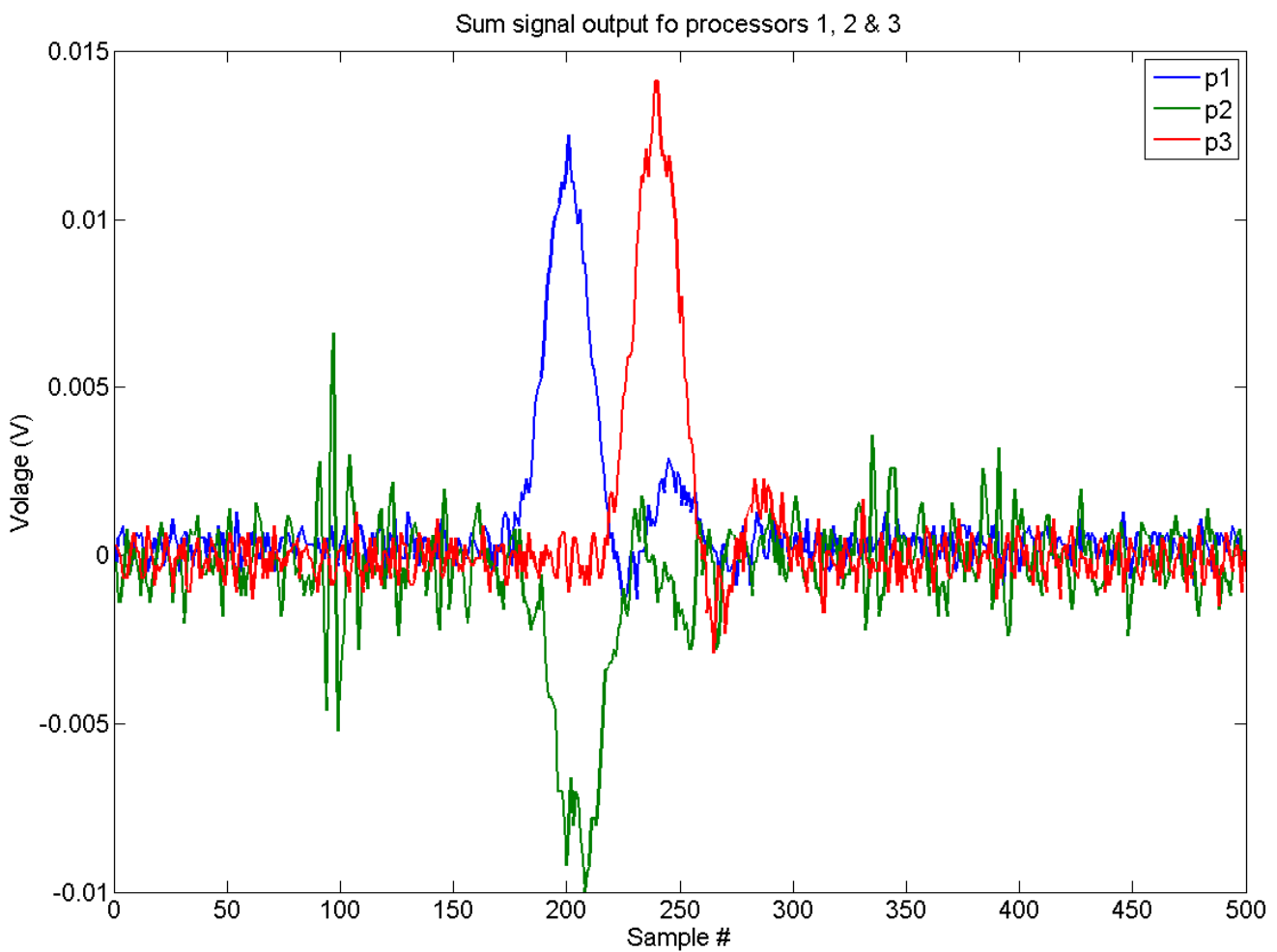
**ch1** p2 (sum)    Raw strip (bottom)

**ch2** p2 (diff)    Raw strip (top)

**ch3** p1 (sum)    p3 (sum)

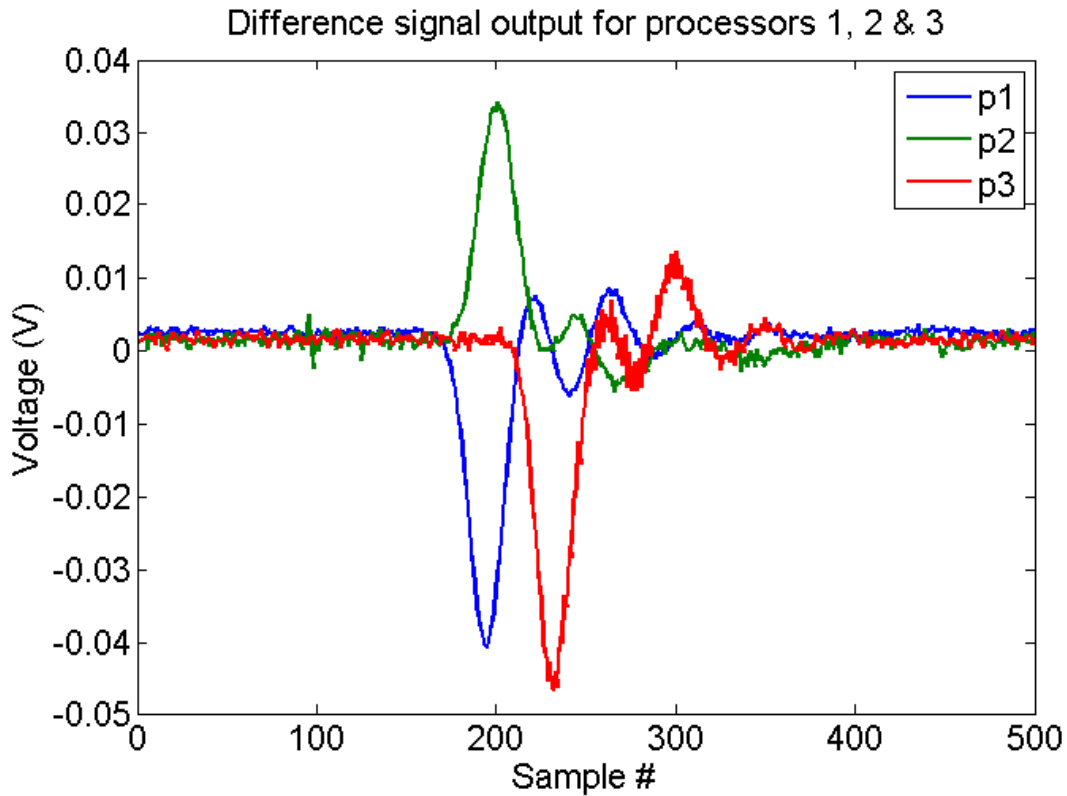
**ch4** p1 (diff)    p3 (diff)

### Sum signals

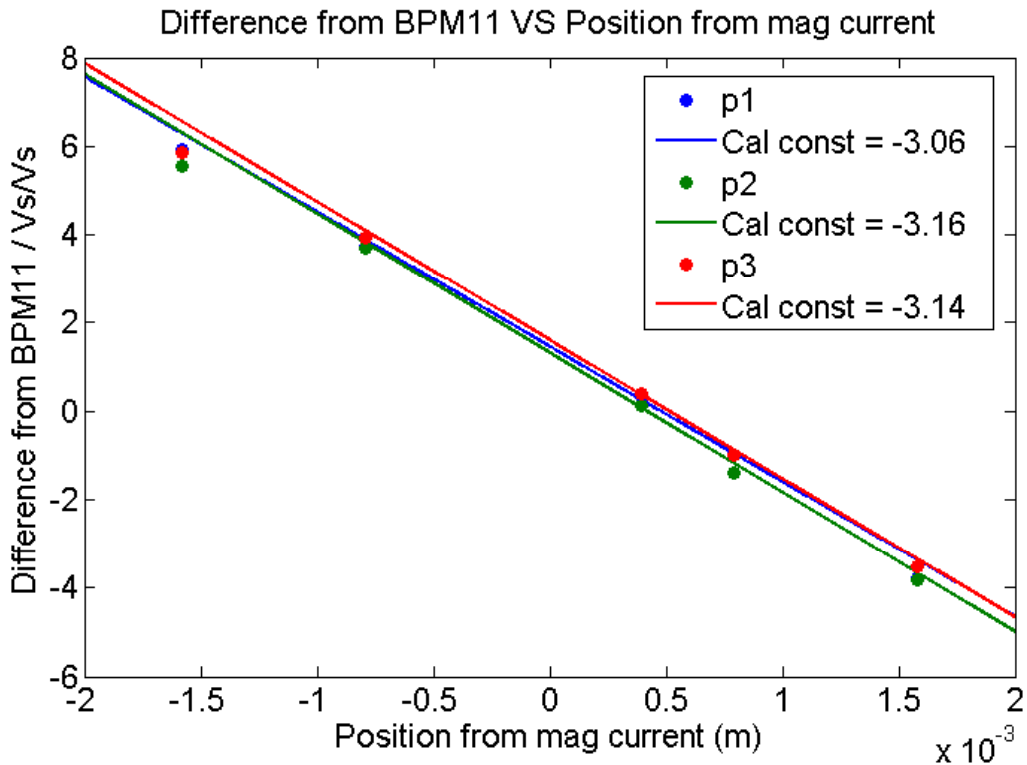


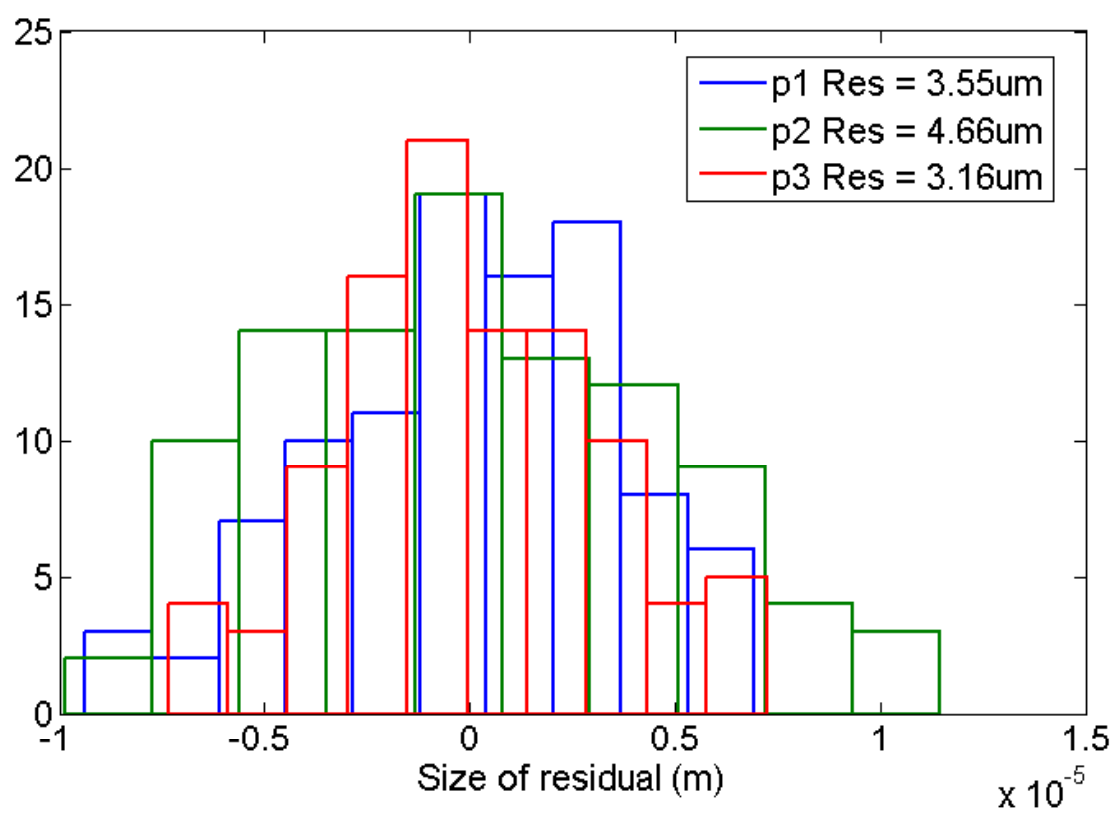


## Difference Signals

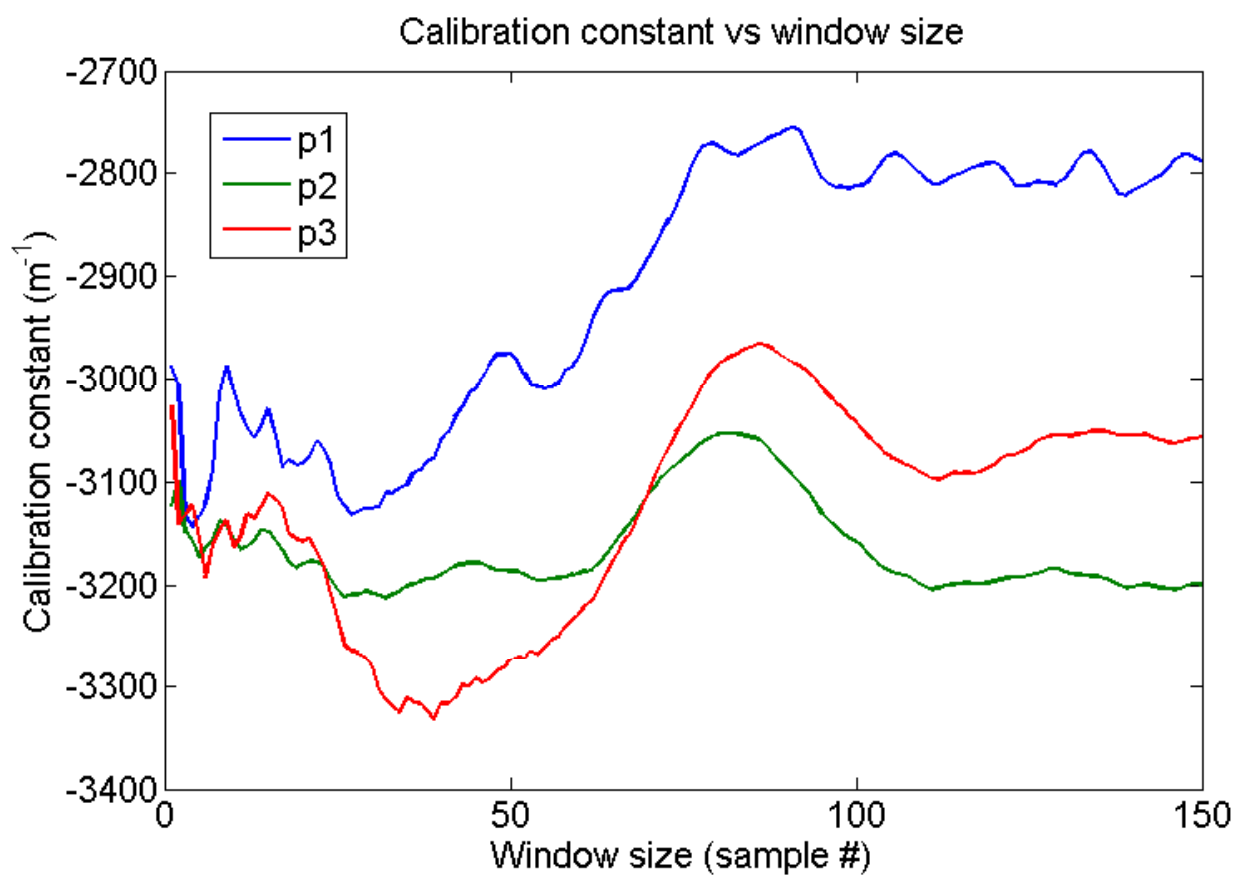


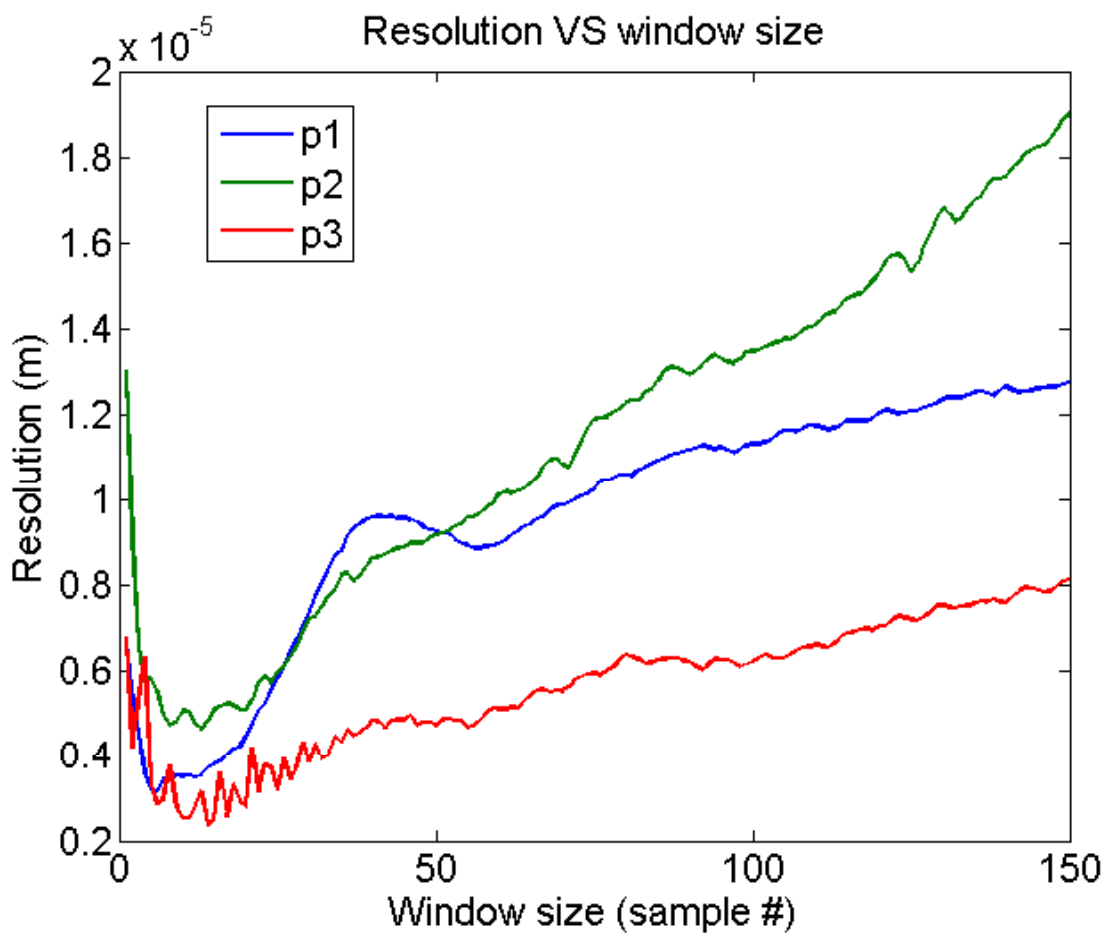
## Calibration and resolution calculation for integration window +/- 13 samples





### Calibration and resolution VS integration window size





**Data type:** Three bunch train calibration / resolution with stripline split 4 ways to p1,2&3 and raw strips. p1 output split with 1/2 into digital board.

**Magnet:** ZV8X

**Charge:** 0.9e10

**Scope:**        **scope 1**    **scope 2**

**ch1** p2 (sum)    Raw strip (bottom)

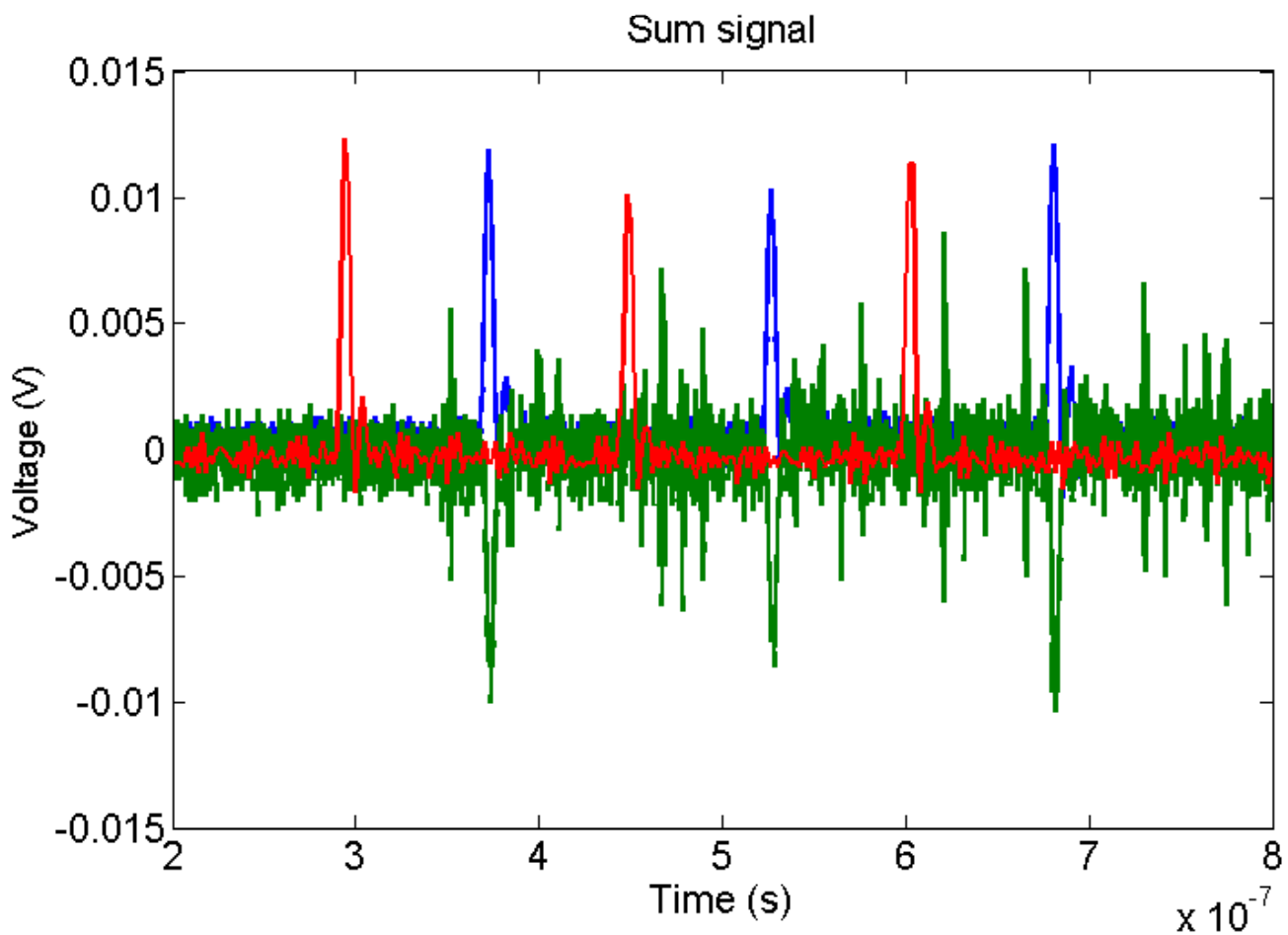
**ch2** p2 (diff)    Raw strip (top)

**May 2008**

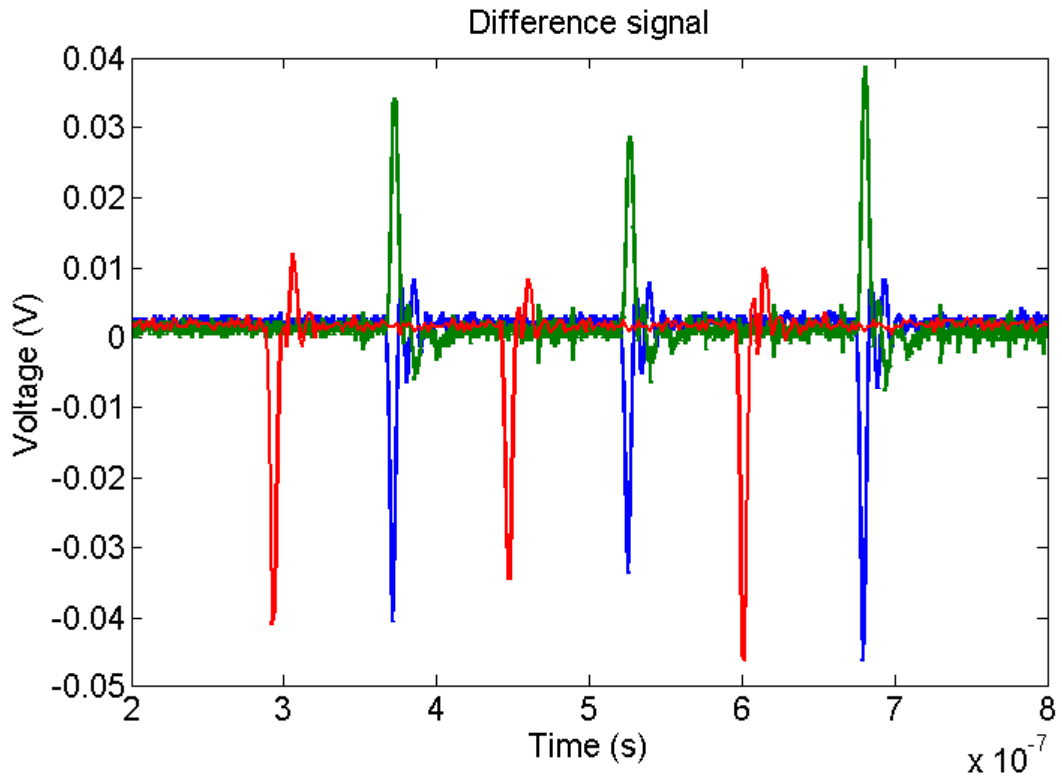
**ch3** p1 (sum)    p3 (sum)

**ch4** p1 (diff)    p3 (diff)

### Sum signals



## Difference signal



## Calibration and resolution for analogue and digital data

