# *FONT Meeting: 1 Nov 2017*

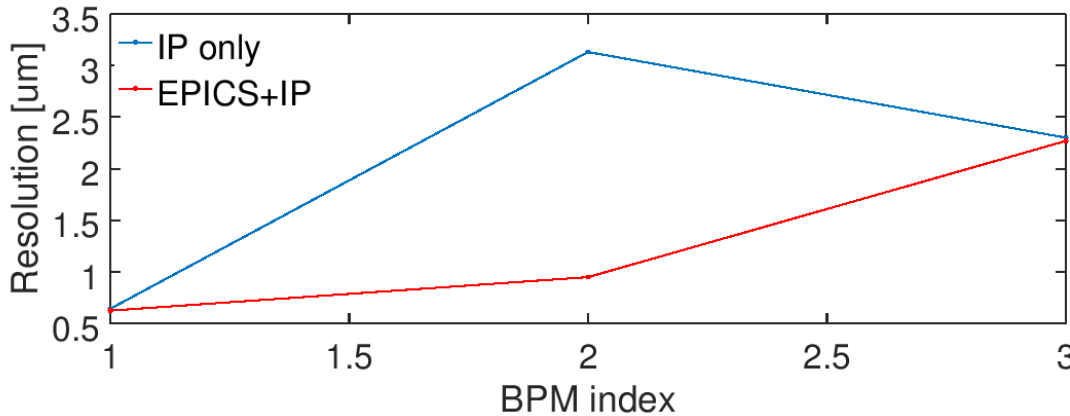## IPBPM SVD
&
DAQ modifications

Douglas BETT

Adding IPBPMs to SVD dataset

- June 2017: data taken concurrently from the IPBPMs (using FONT5) and rest of the ATF BPMs (using Flight Simulator script)

- Data sets can be synchronized using timestamp analysis and the IPBPM data can be appended to the ATF BPM data set to see the effect on the output of the SVD resolution calculation
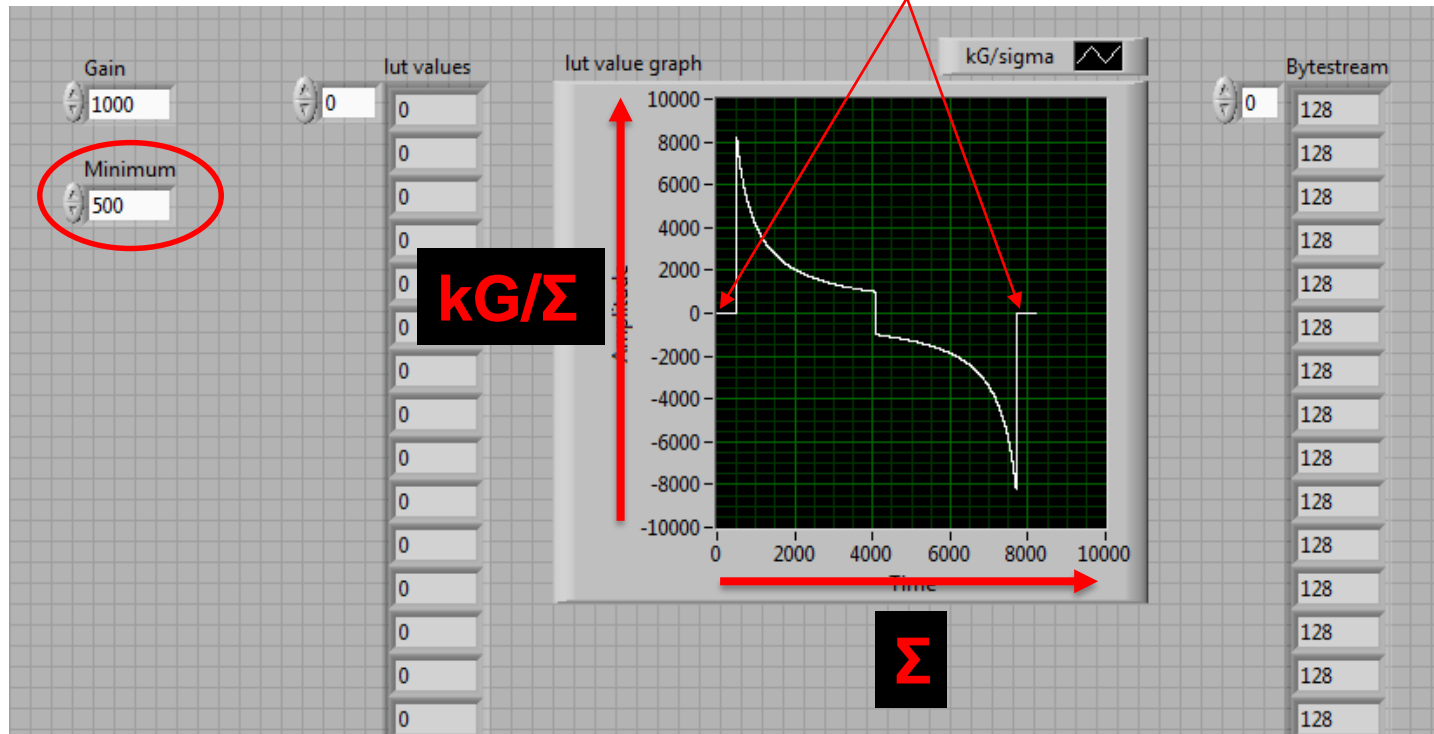
Calculated resolution
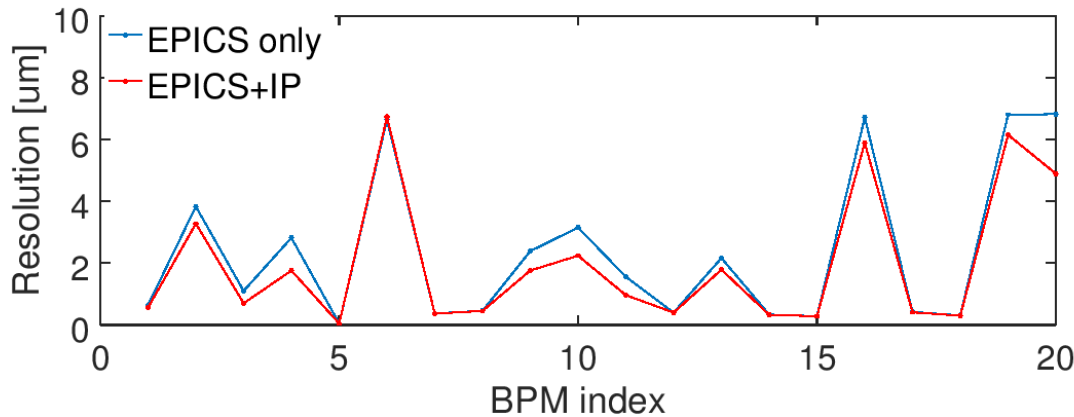
Including IPBPMs in SVD matrix slightly improves resolution calculated for most BPMs but biggest effect by far is at IPB

Resolution of IPBPMs most likely reflects the attenuation setting: measured jitters are:
IPA   0.98 um
IPB   11.51 um
IPC   7.65 um
NOTE: IPC saturating

generate_lut_values.vi

Future Plans

- Major DAQ overhaul
  - bring it under version control

EXTRAS

Timestamp analysis

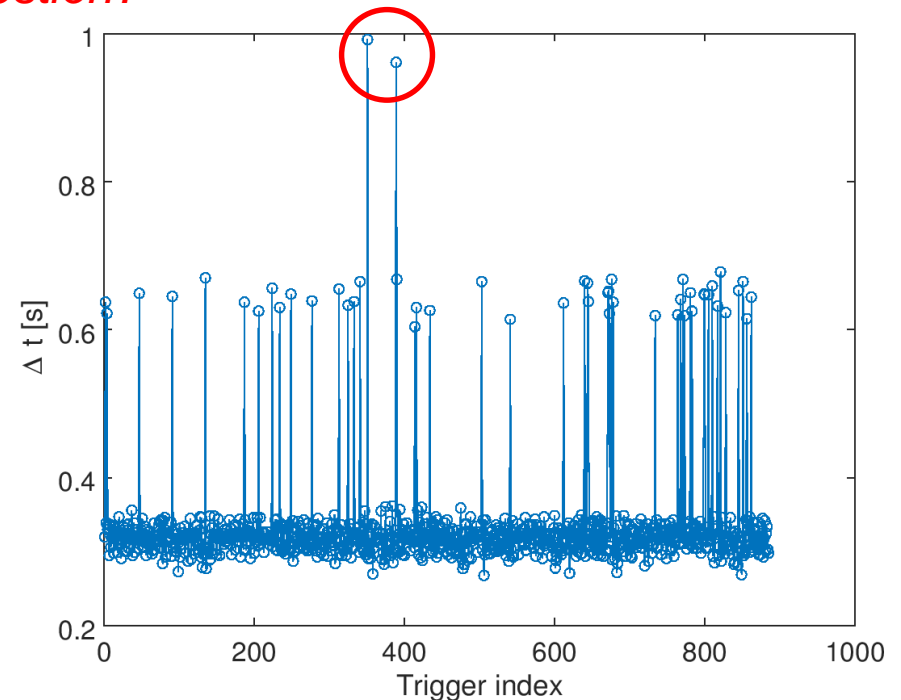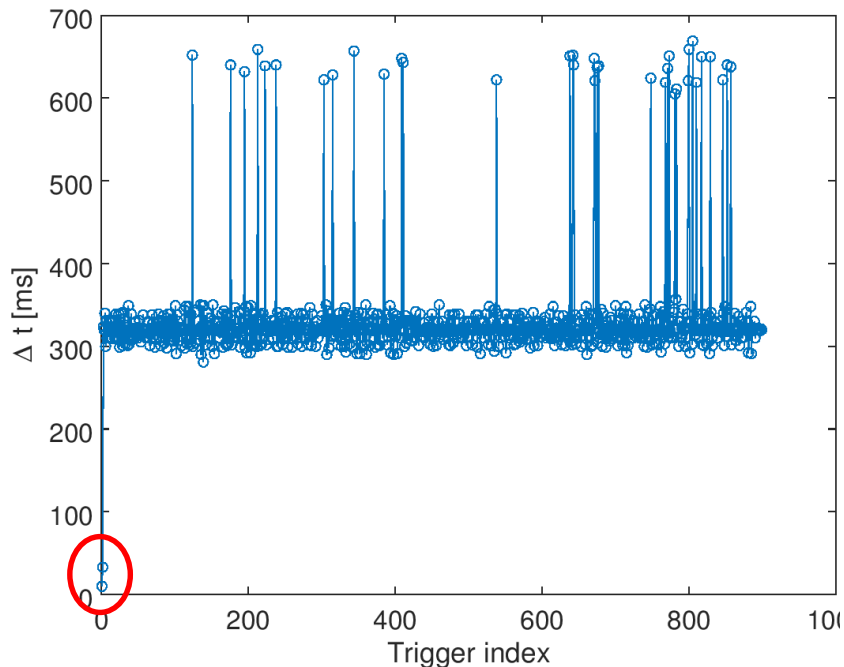**FONT data**
Strange behaviour at start
- most likely DAQ artefact
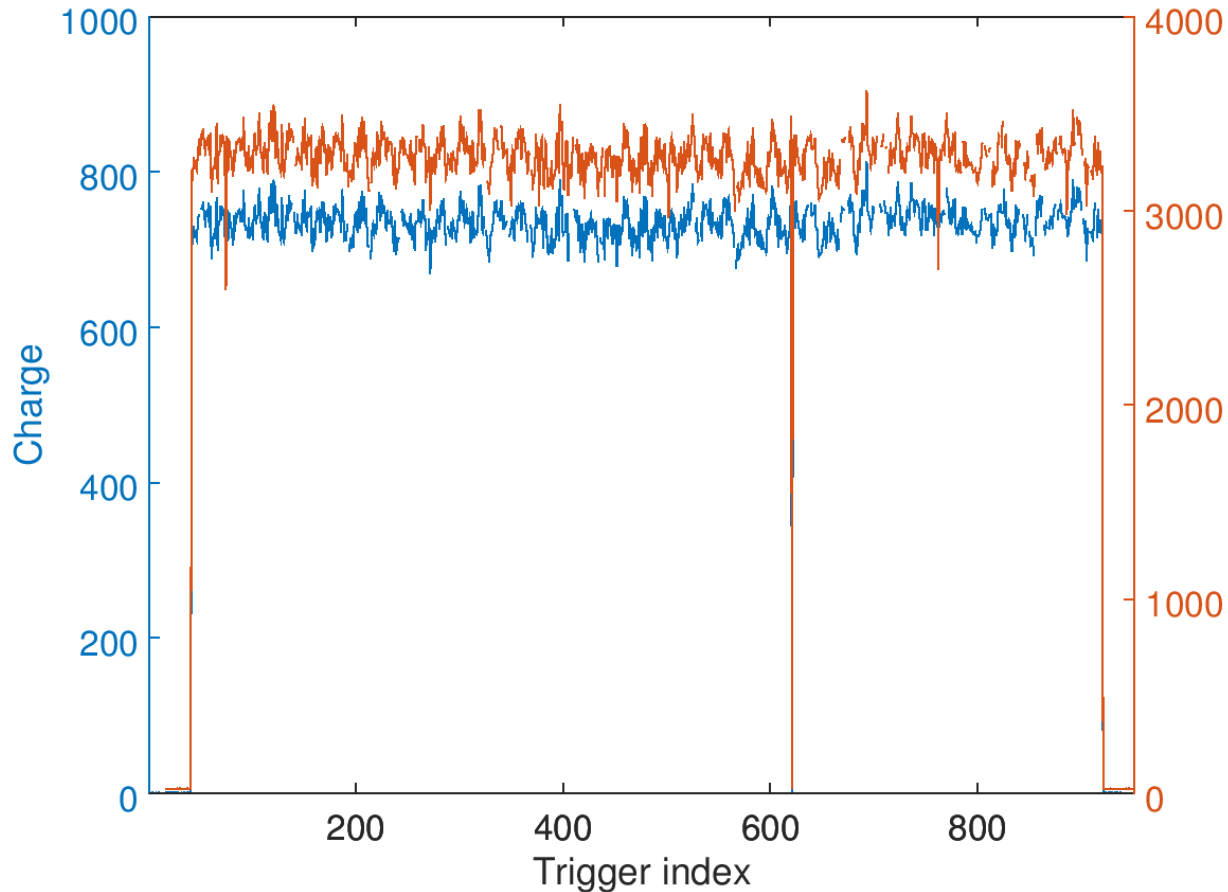Frequent missing triggers
35/900 → 3.9% missed

EPICS data
Can miss more than one trigger

Frequent missing triggers
50/886 → 5.6% missed
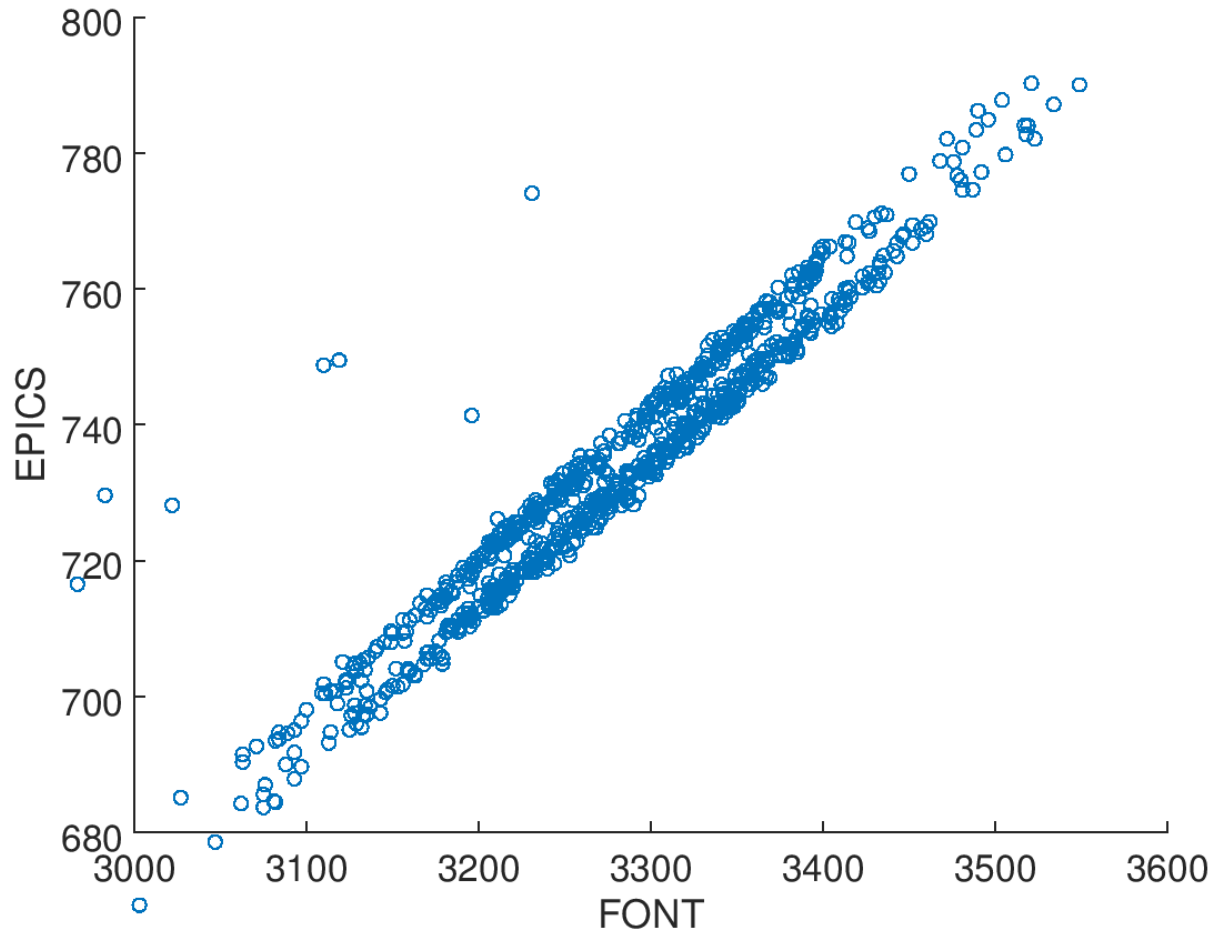
POSSIBLE CAUSE: network congestion?
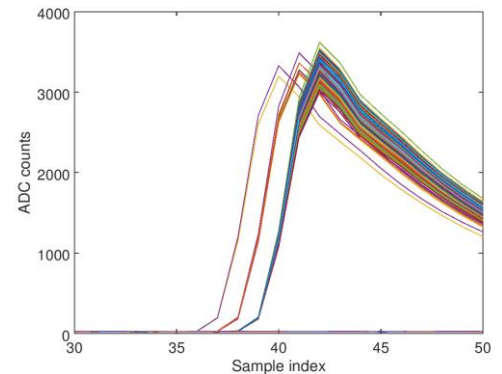
Synchronization check

With appropriate time shift to account for the different start times of the two data sets, charge from FONT aligns well with the charge recorded in the Flight Simulator script
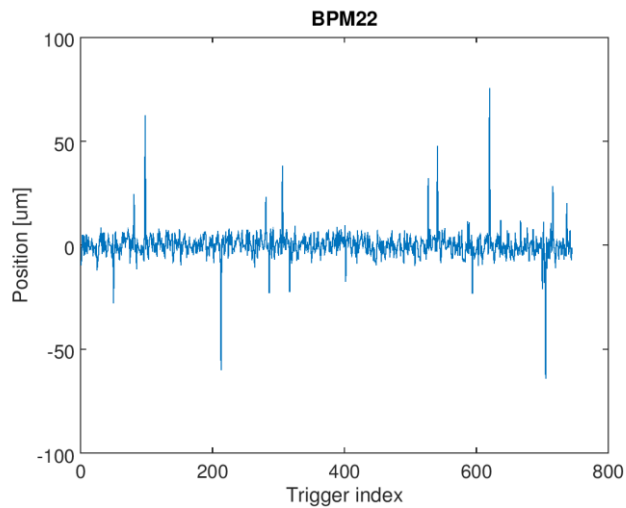
Charge correlation

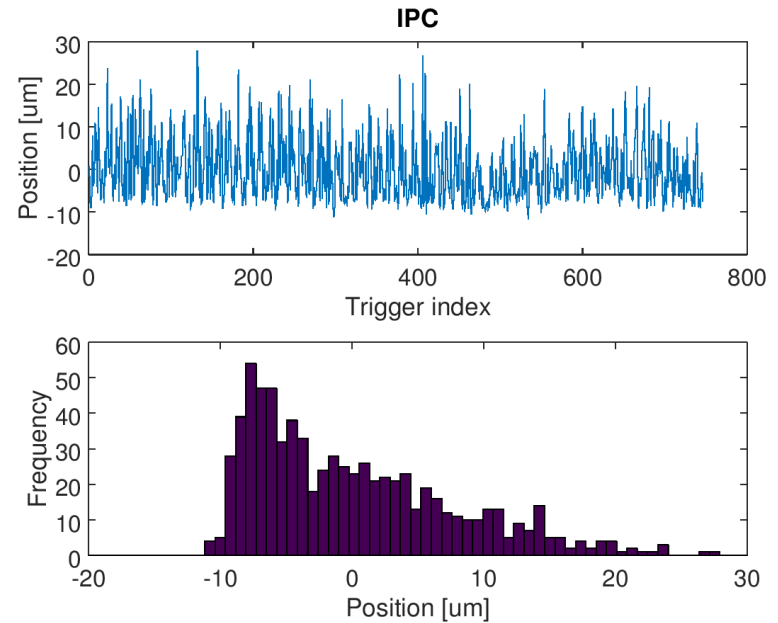Seems to be a double distribution. Could this be due to sample jumps?

Happening, but not enough to explain this effect (10/879)

Other issues

Frequent glitches in ATF BPMs

Severe IPC saturation