

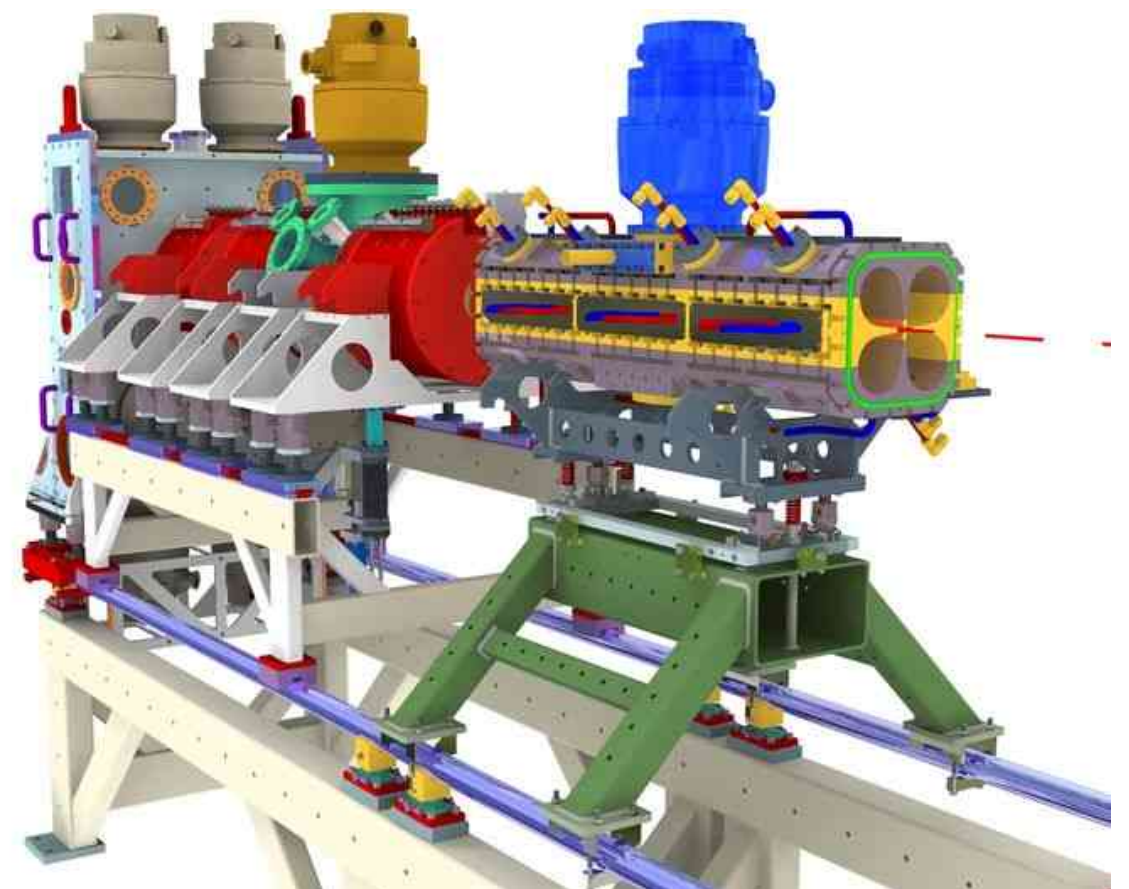
BPM Wire Rig Status

on behalf of
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CERN L4 BPM group

FETS Meeting, RAL
14/05/2014

Outline

- Wire rig concept
- Recent progress
- First linearity test



Main activities in past month:

- Reminder of concept:
 - “touch-probe” wire rig as proposed at 19th March FETS meeting.
 - Vertical wire with X / Y stages to make a 2D map wrt to KF flange.
- Hardware now produced at RHUL
 - Assembled and first tests last week, see next slides.
 - SEPnet summer student recently recruited to work on this from ~July.

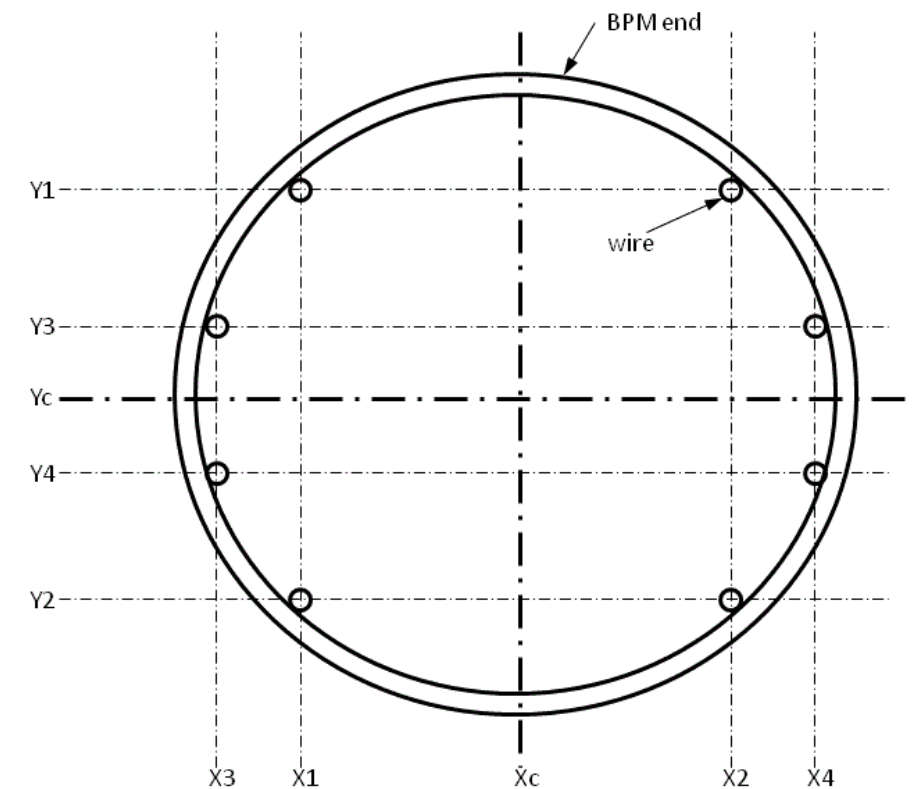
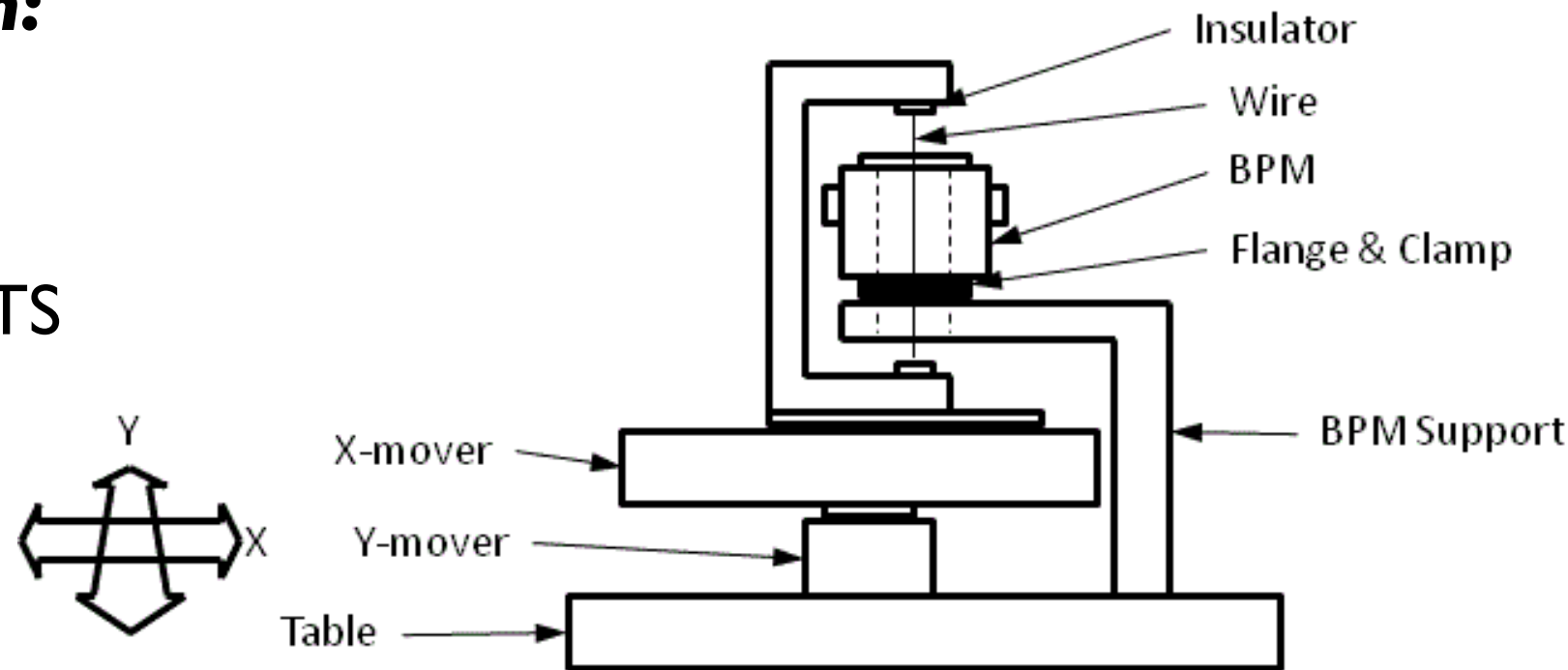
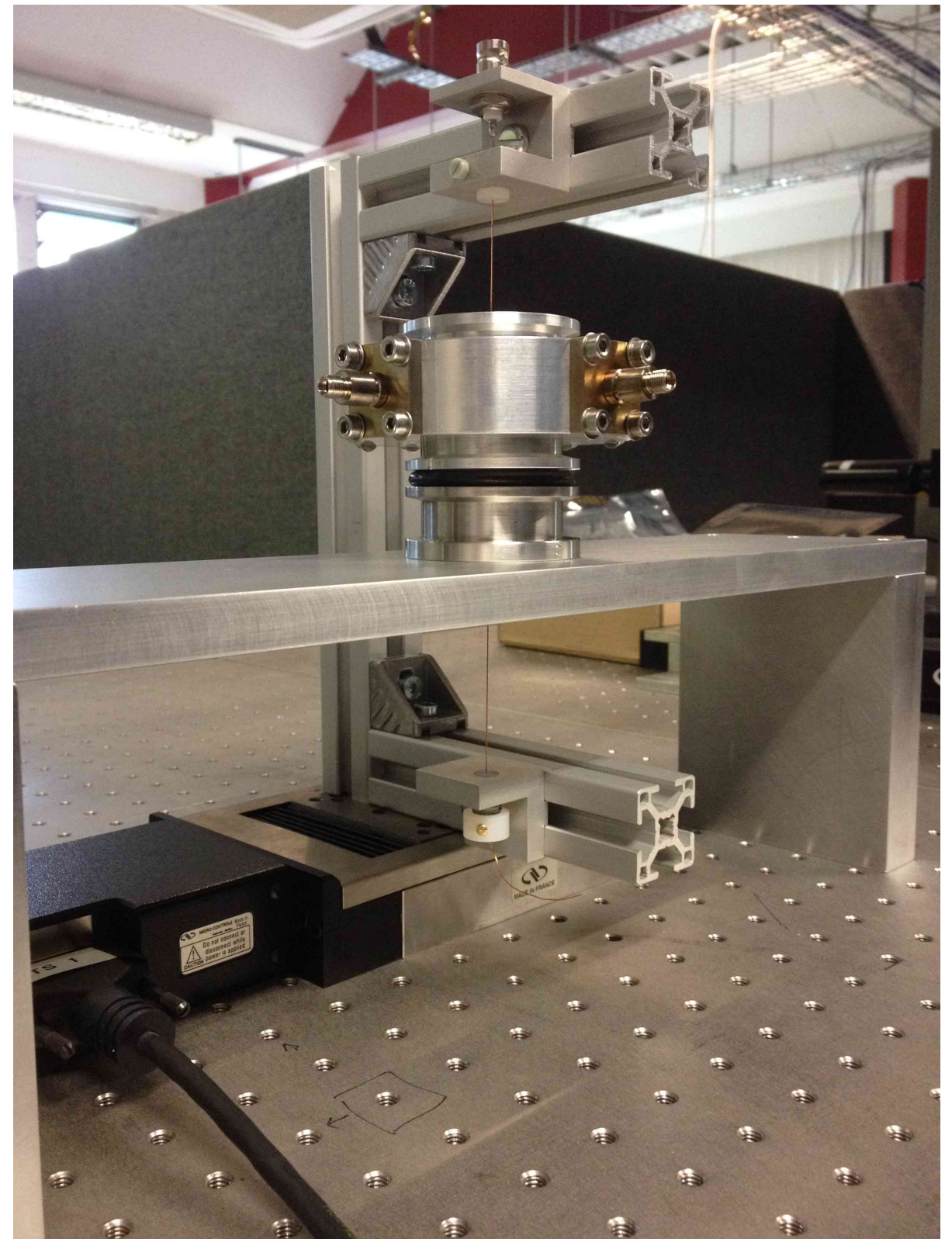
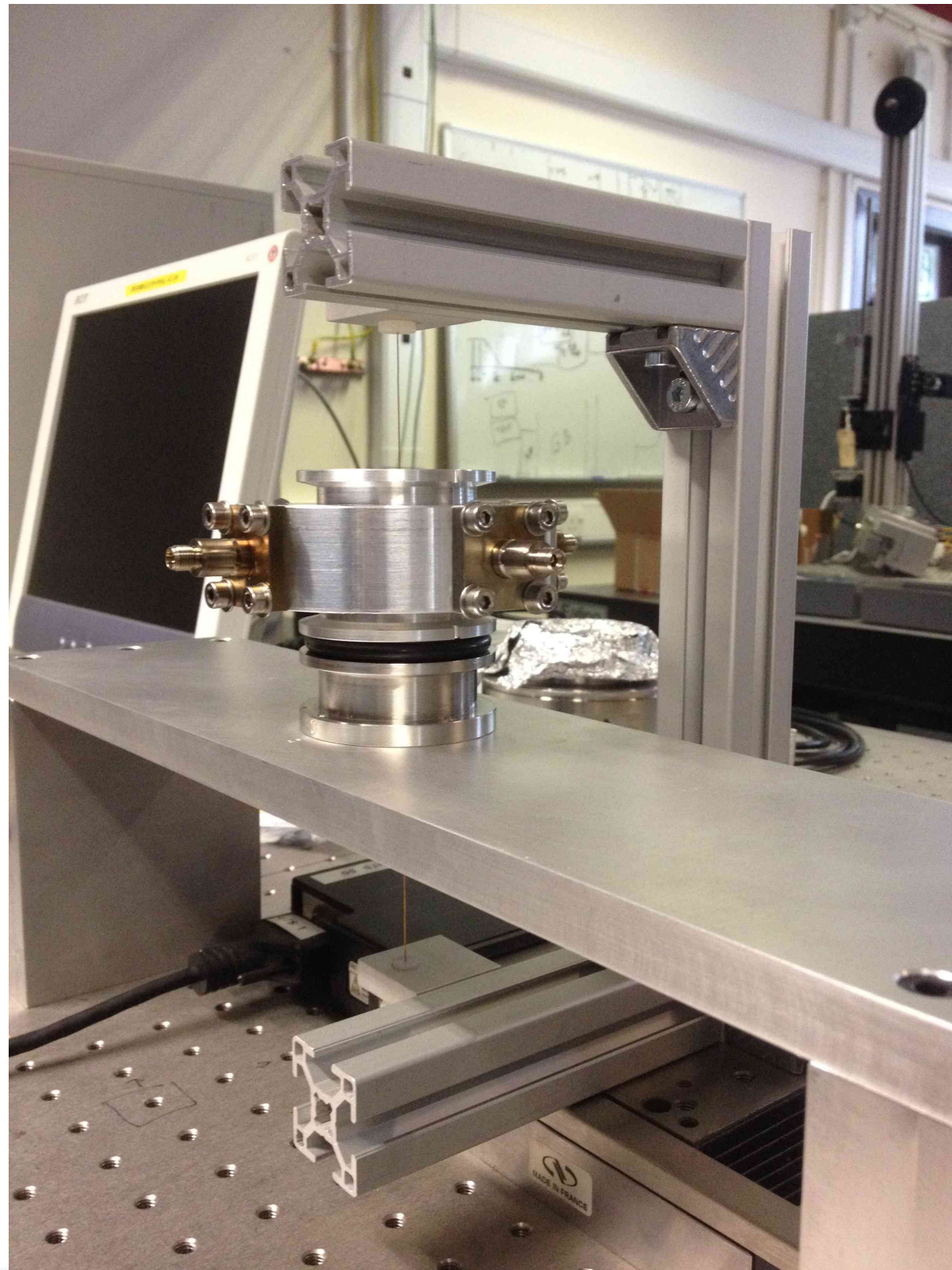
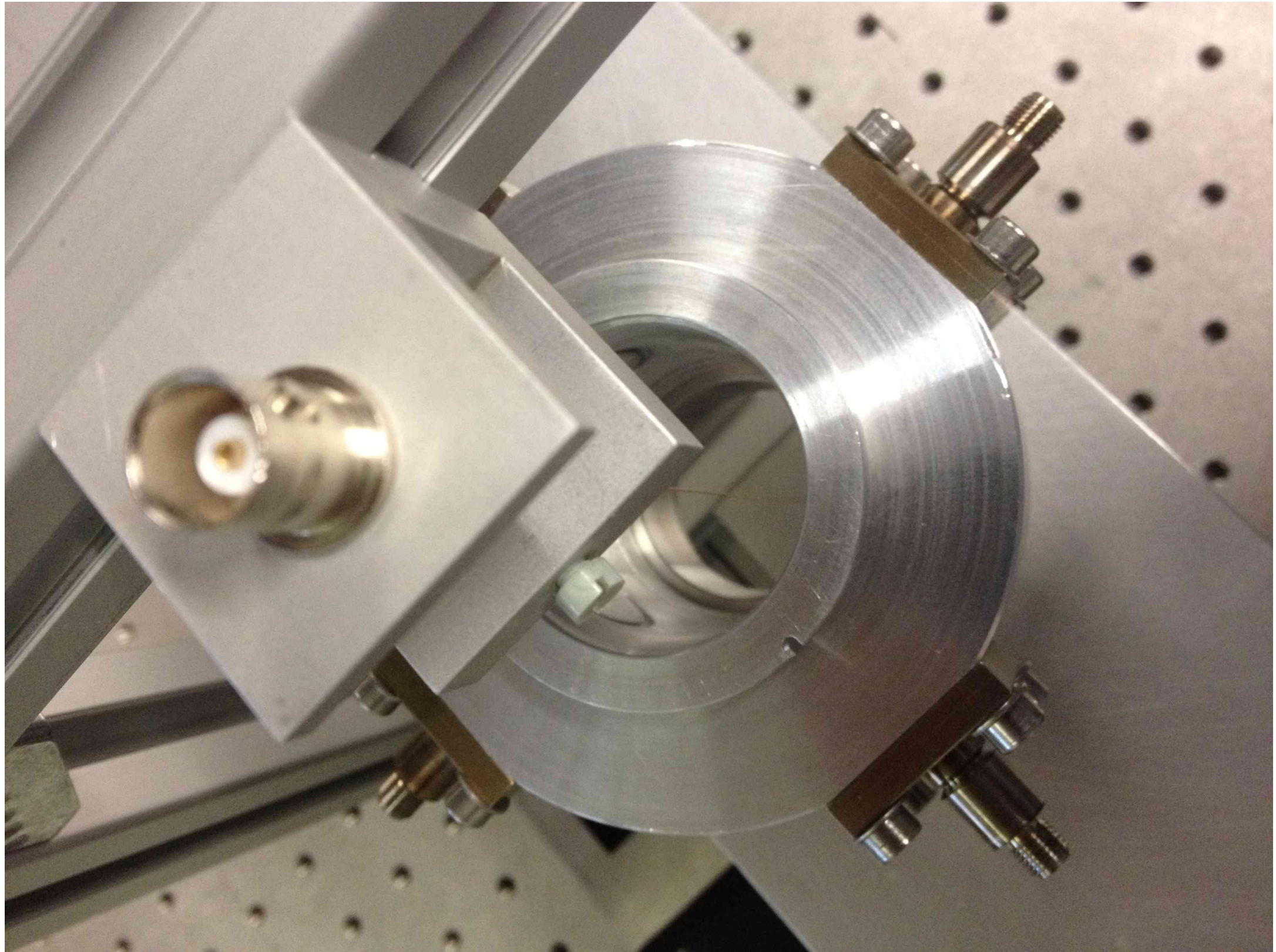
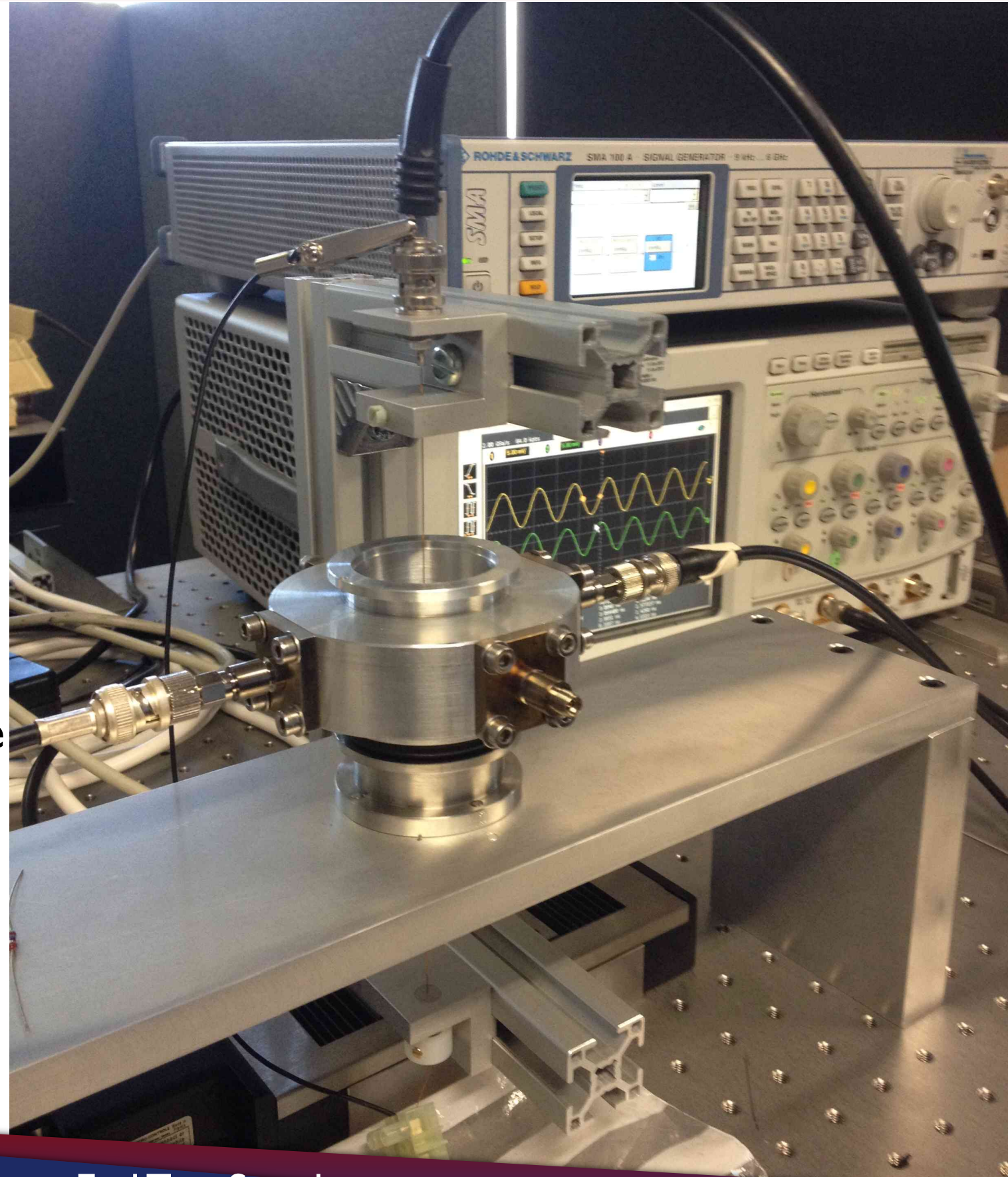


Figure 3 Wire contact on the BPM

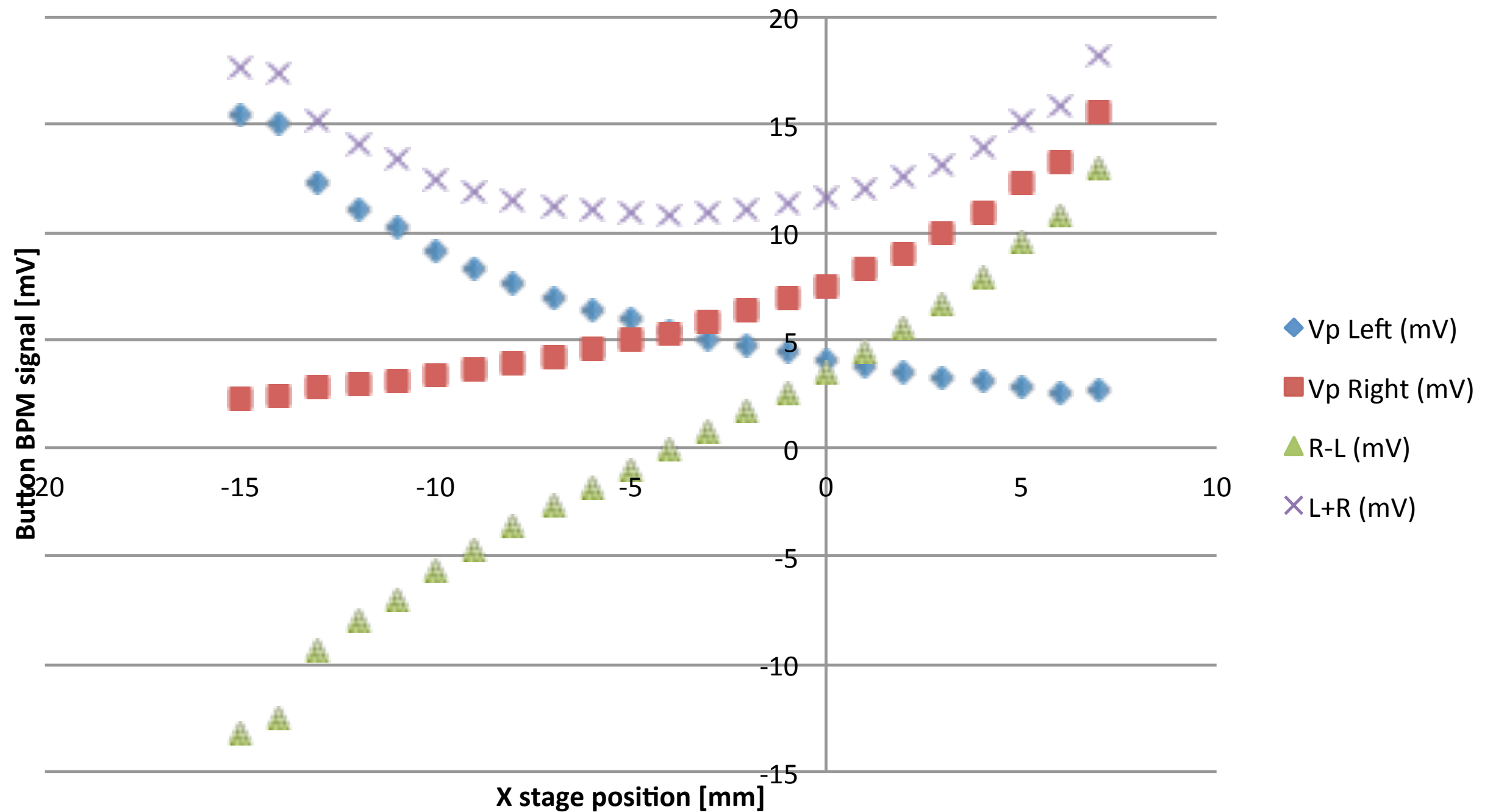


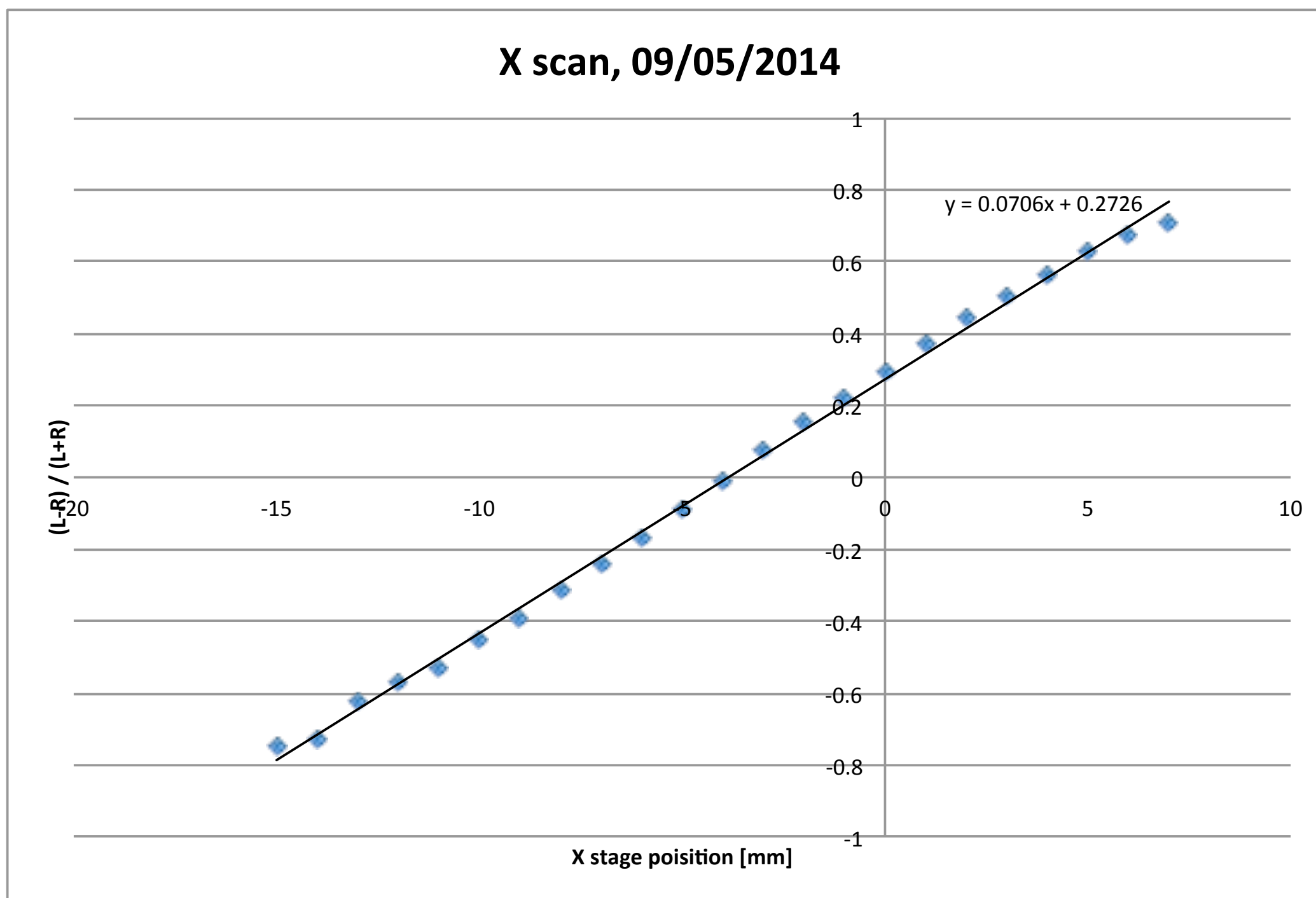


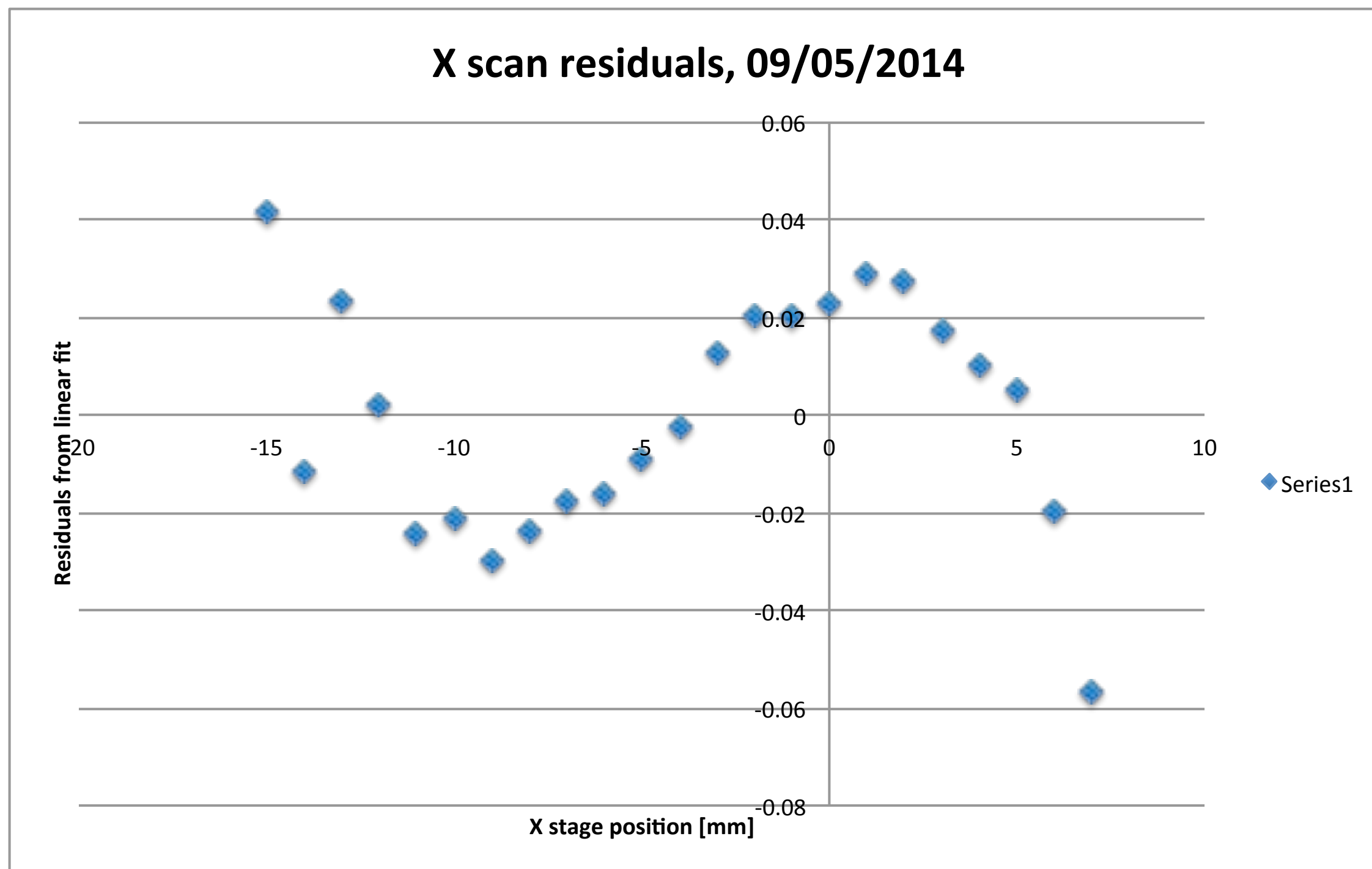
- First quick test last week:
 - RF signal in wire was 324 MHz, +18 dBm, 5V peak-peak signal into 50 Ohm.
 - (Higher power RF planned for next week).
 - Nice clean signals on scope from button pick ups.
- X scan
 - Made an initial scan of wire X-position. (currently single stage mounted, second to be added next week).
 - By eye, the BPM centre is roughly at a stage position of -4 mm.



Compact Button BPM X scan

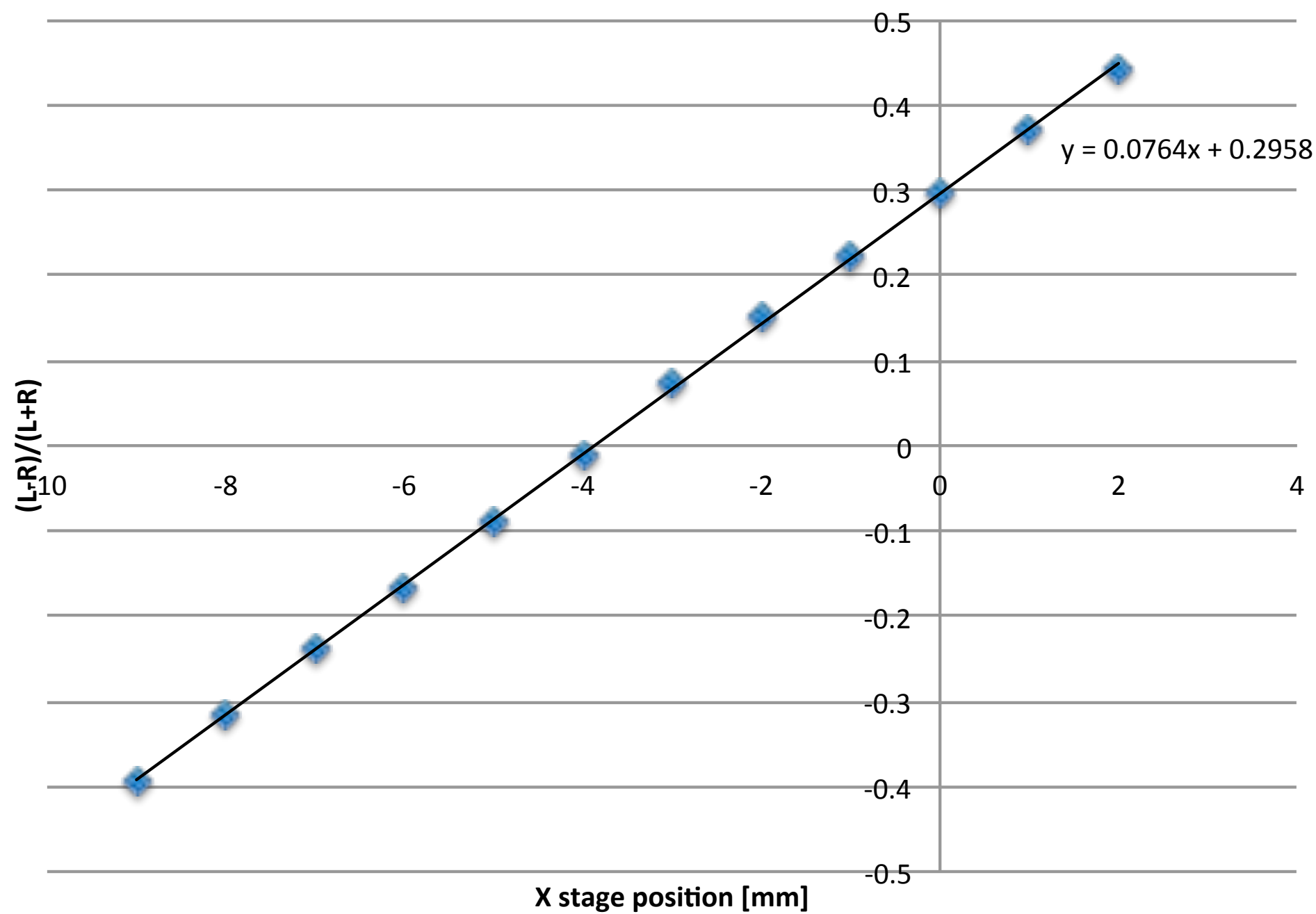






Outlier at -14 mm probably a transcribing error from Gary's notebook

X scan, 09/05/2014 (linear region)



X scan residuals, 09/05/2014 (linear region)

< 1% linearity

