nanoBPM relocation

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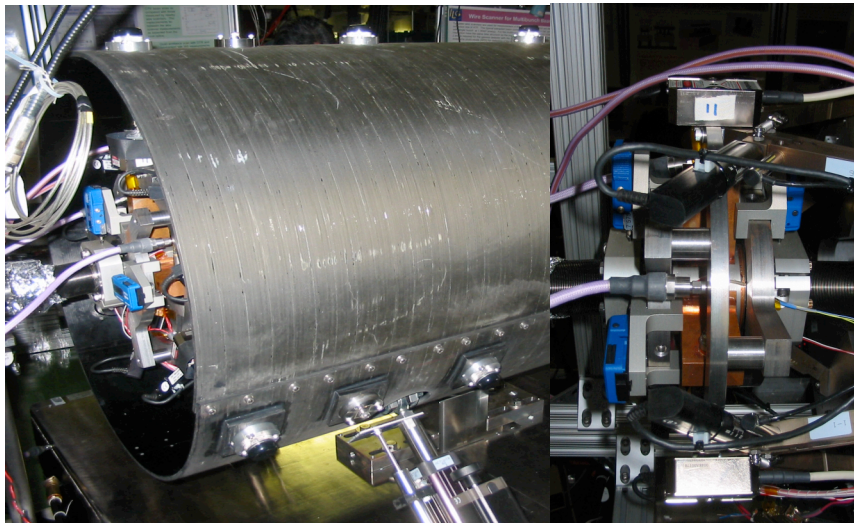
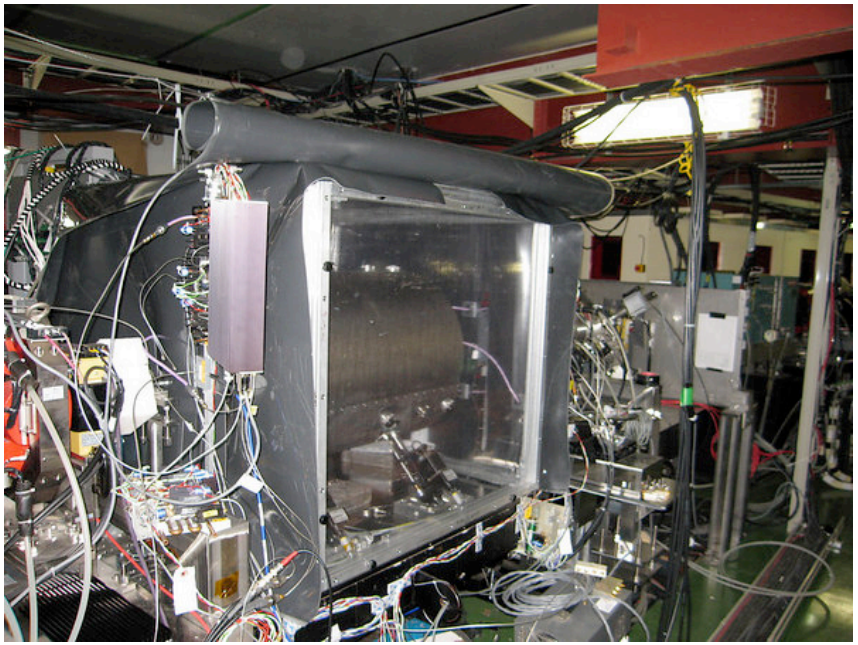
Relocation of NanoBPM

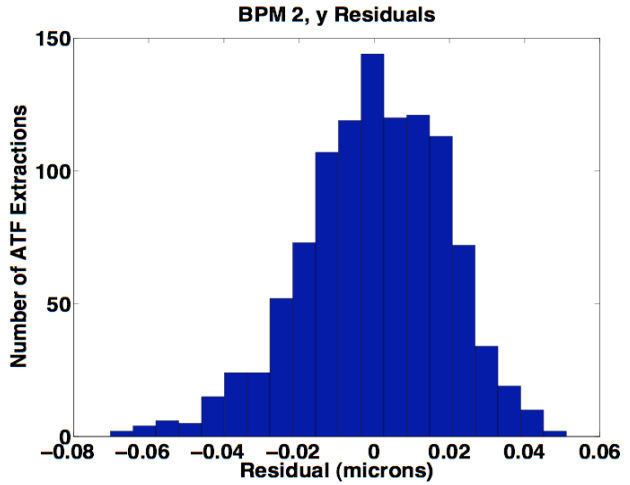
- Still interest in continuation of nanoBPM in ATF2
  - Need for BPM test stand
  - Processing electronics and algorithms
    - First/early pulse calibration
    - Automation and readout
  - BPM stabilization, thermal, mechanical
    - Thermal monitoring and control
    - Position (nanoGrids)
    - Triplet stabilisation with wrt to other BPM systems
      - Mona Lisa

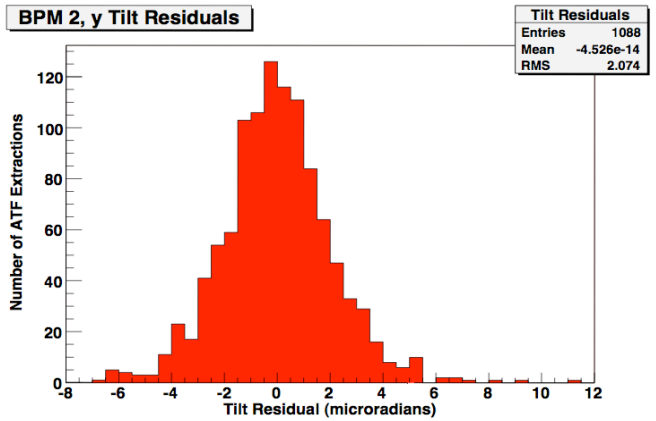




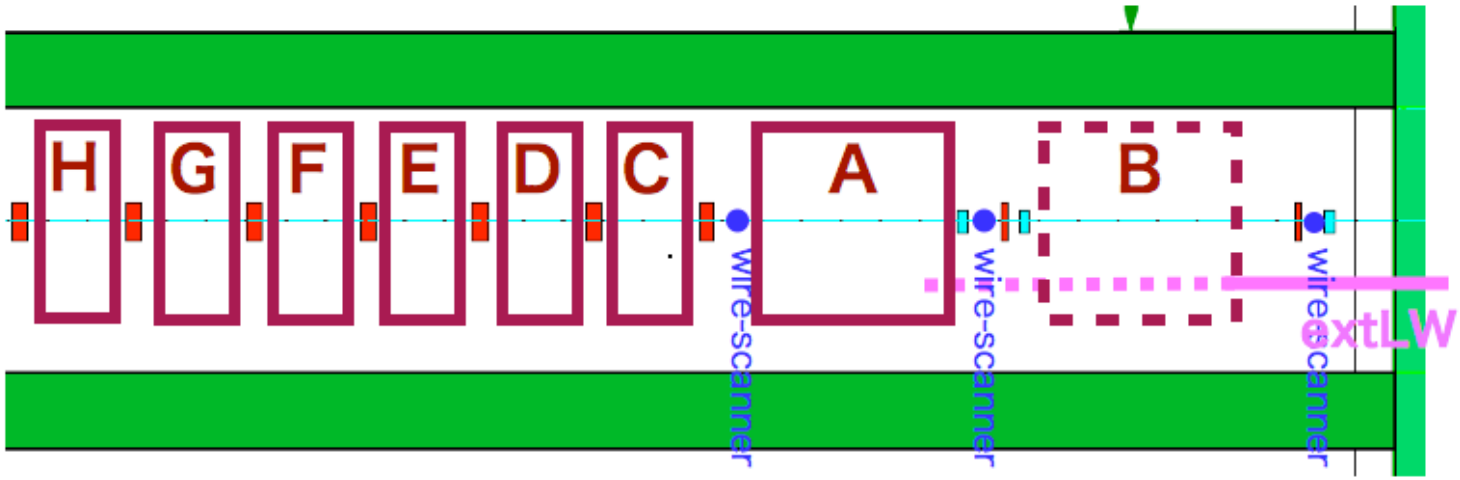
NanoBPM program in ATF2

- Resolution performance verified
  - Vertical 15.6nm
  - Angular vertical 2.1 μrad
  - Stability over multiple hours
- Longer term plans
  - Calibration systems
  - Long term stability
  - Full exploitation of BPM monitoring systems
  - Electronics noise not dominant
- Multibunch
  - ILC like beam structure
  - Extraction of beam positions





NanoBPM location in ATF2



- Either location A or B reasonable for nanoBPM
  - Optics as yet not checked
  - Low dispersion important
- Proximity to laserwire IP could be beneficial to subtract beam motion from laserwire measurements
- Cross check of ATF Q-BPMs
- Independent test stand, not essential to ATF2 operation but similar enough to Q-BPMs

Summary

- Continued support for nanoBPM being discussed
  - UK groups will continue (dependent on funding) to be active on nanoBPM and possibly new UK designed BPM prototypes in ATF2
  - Position of US groups not so clear, will be discussed next year
    - Livermore (S. Walston, J. Gronburg)
    - Berkeley (Y. Kolomensky) Caltech (T. Orimoto)
    - SLAC (D. McCormick, J. May, T. Smith)
  - Program must be clarified with international collaborators
    - Discussion started
    - Relationship with new ATF2 Q-BPMs
  - Test stand for development of calibration and readout options for ATF2 Q-BPMs