Cross-calibration BPM and wirescanners in undulator section
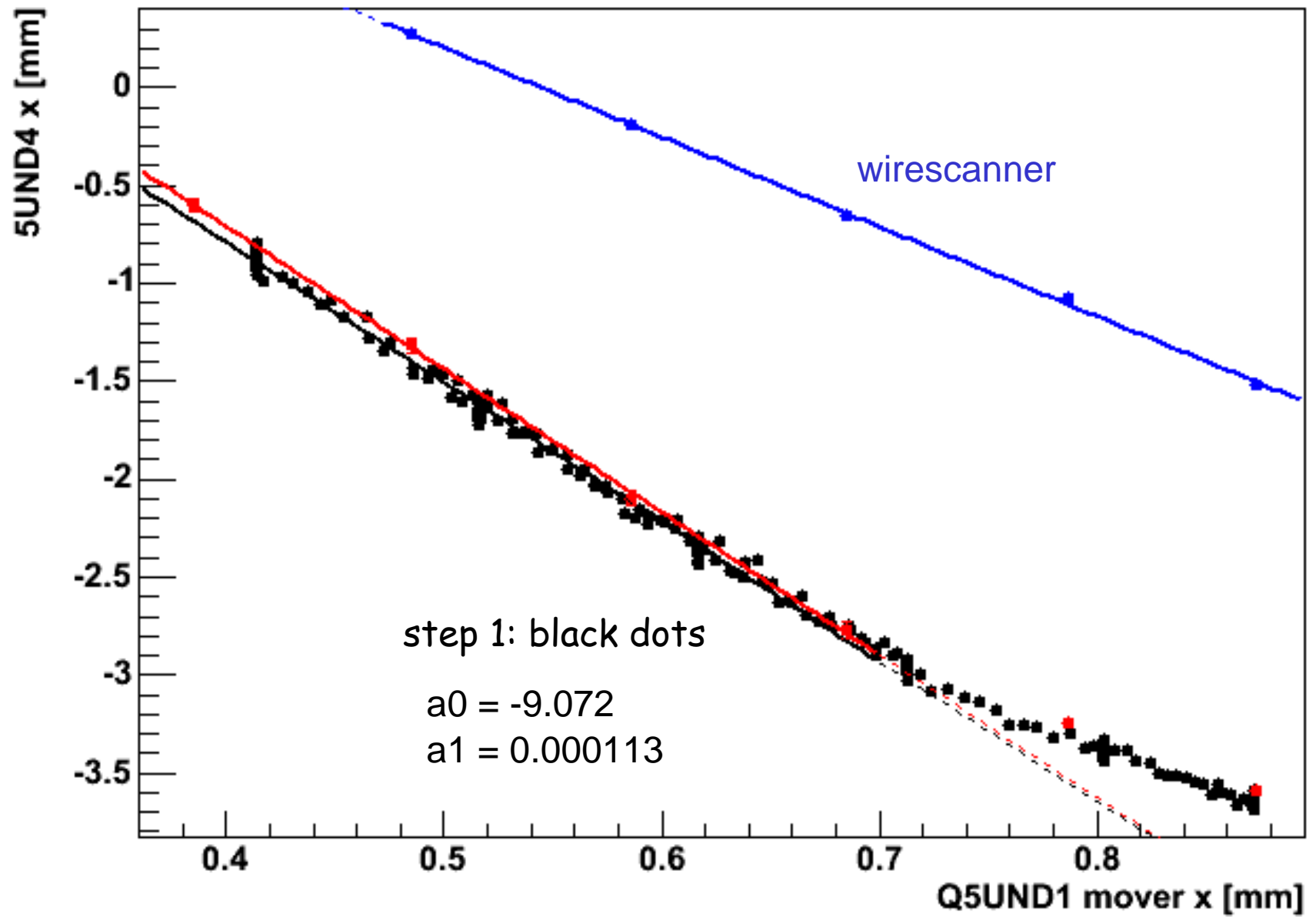
N. Baboi, P.Castro

Goal:

to calibrate BPM in diagnostics blocks to the absolute
position of the wires

to improve the measurement and correction of the trajectory
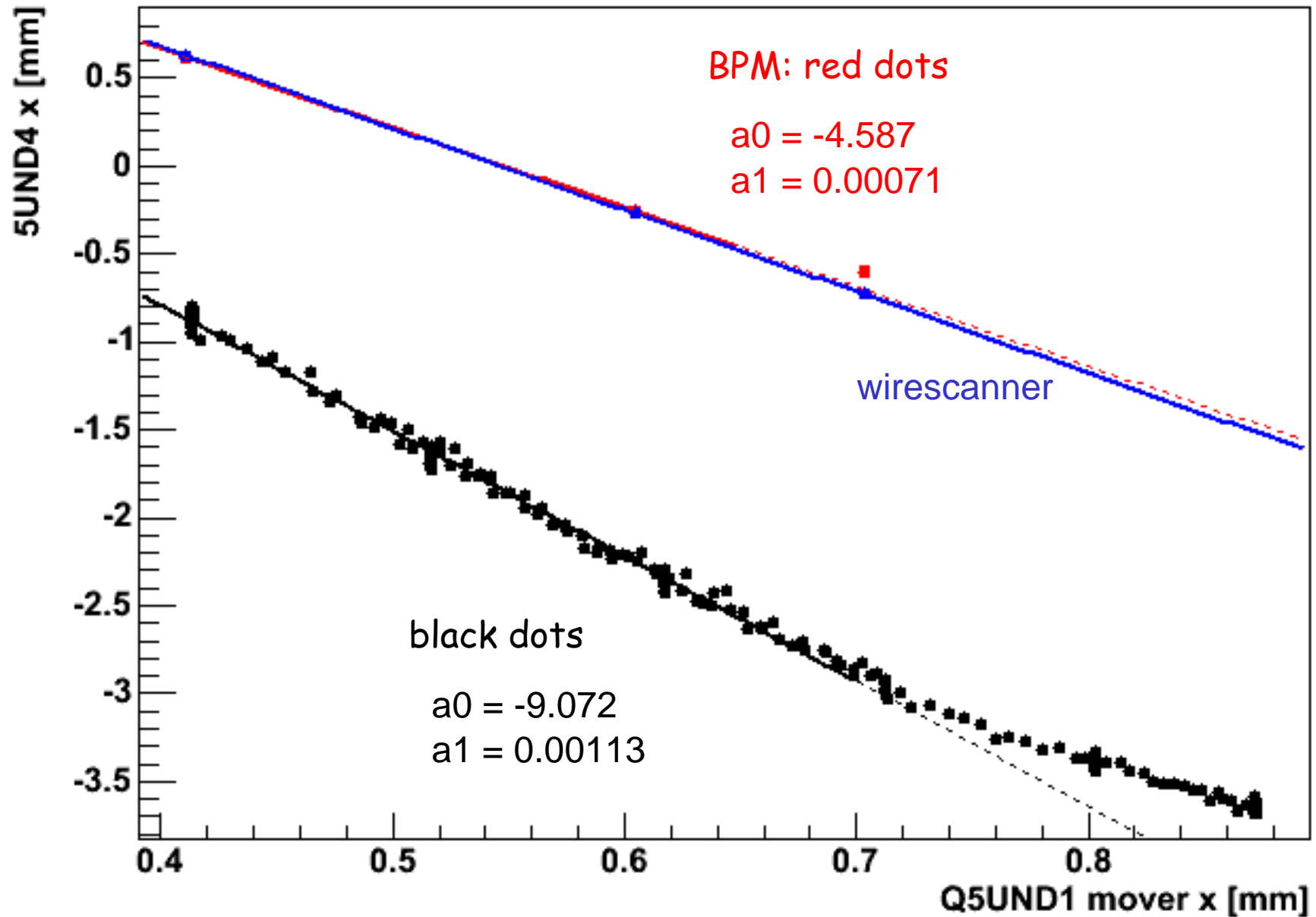in undulator section

to improve the reproducibility of the trajectory in undulator section
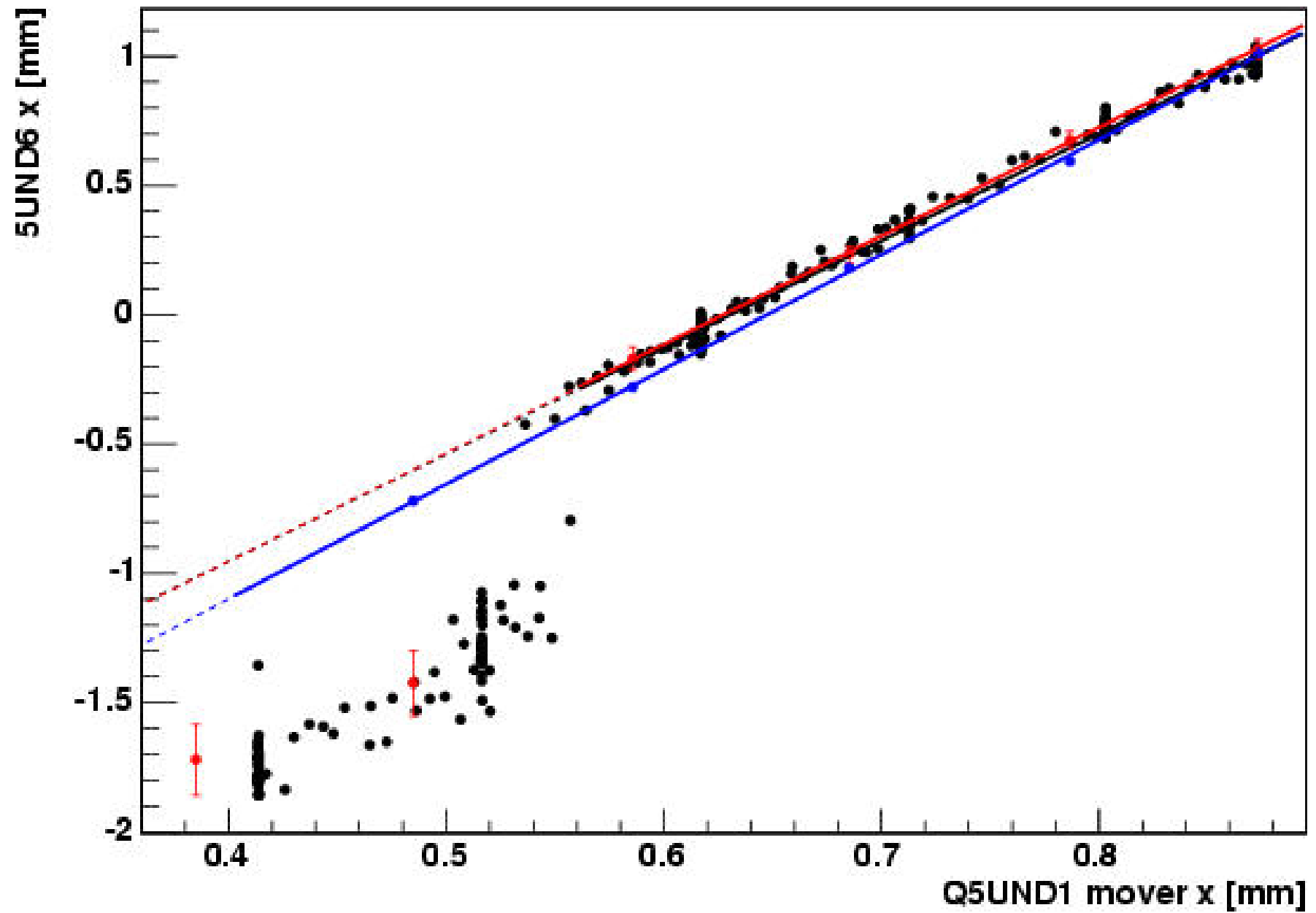
Procedure

- ## Step 1:

  move beam and measure the full range of BPM

- ## Step 2:

  Take 5-7 points in the linear range of BPM:
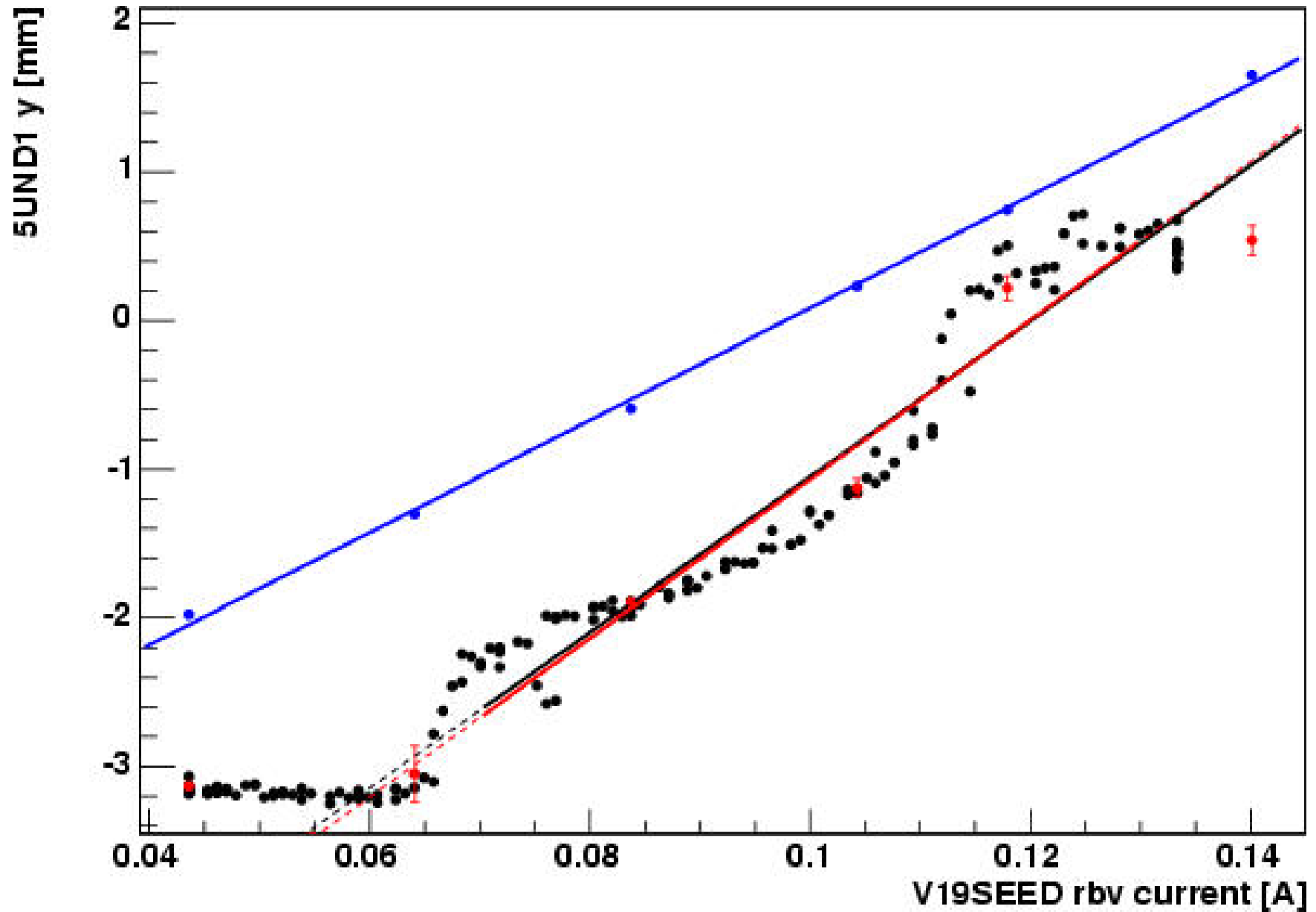
  Take wirescanns and compare with BPM data

wirescanner

step 1: black dots

a0 = -9.072
a1 = 0.000113

5UND4 x [mm]

Q5UND1 mover x [mm]

after new calibration applied: we checked with 3 points

BPM: red dots

a0 = -4.587
a1 = 0.00071

wirescanner

black dots

a0 = -9.072
a1 = 0.00113

BPM 5UND5 (hor. plane)

BPM 5UND1 (ver. plane)

BPM 5UND1 (hor. plane)