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
step 1: black dots

\[ a_0 = -9.072 \]
\[ a_1 = 0.000113 \]
after new calibration applied: we checked with 3 points

BPM: red dots

\[ a_0 = -4.587 \]
\[ a_1 = 0.00071 \]

wirescanner

black dots

\[ a_0 = -9.072 \]
\[ a_1 = 0.00113 \]
BPM 5UND5 (hor. plane)
BPM 5UND1 (ver. plane)
BPM 5UND1 (hor. plane)