DOROS BPMs for improved coupling corrections

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Motivation

• Have a system to correct the coupling with a minimum level of excitation
Demonstrating a correction

1. Excited with the AC dipole and recorded with normal and DOROS BPMs to calibrate
2. Excited with the BI-ADT and recorded with the DOROS BPMs
3. A peak to peak excitation of \( \sim 50 \text{ um} \) was used to calculate the correction compared to \( \sim 1.5 \text{ mm} \) normally needed with the normal BPMs
Calibration and Comparison

We excited with the AC dipole and recorded with normal and DOROS BPMs to cross-calibrate (not needed for the coupling correction).

-> Analysis will show at which amplitude we can measure which level of coupling
Next steps

• Analyse the data to come up with requirements for the level of excitation needed and robust error estimates

• Start discussing on how an application that is a ”1 button” to correct should look like
Conclusion

• Very successful MD!

• We demonstrated a correction of the transverse coupling using the DOROS system.
  – Excitation was \(~50\)um, peak-to-peak or 30 times lower than normal

• Analysis to be done on the minimum needed

• Start thinking of an application to fully automatize the corrections