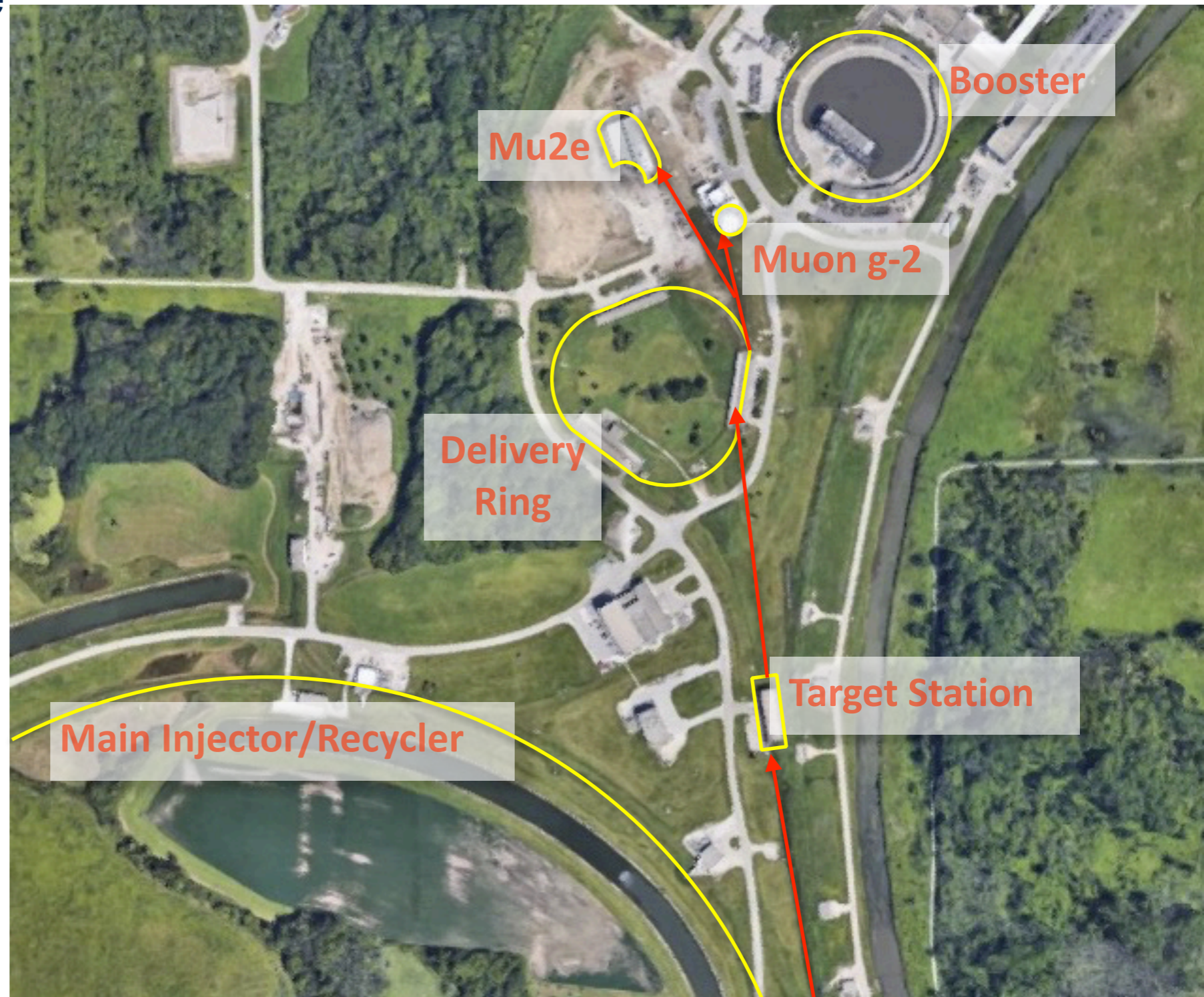


# Ex: The Muon Campus

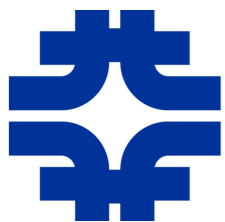
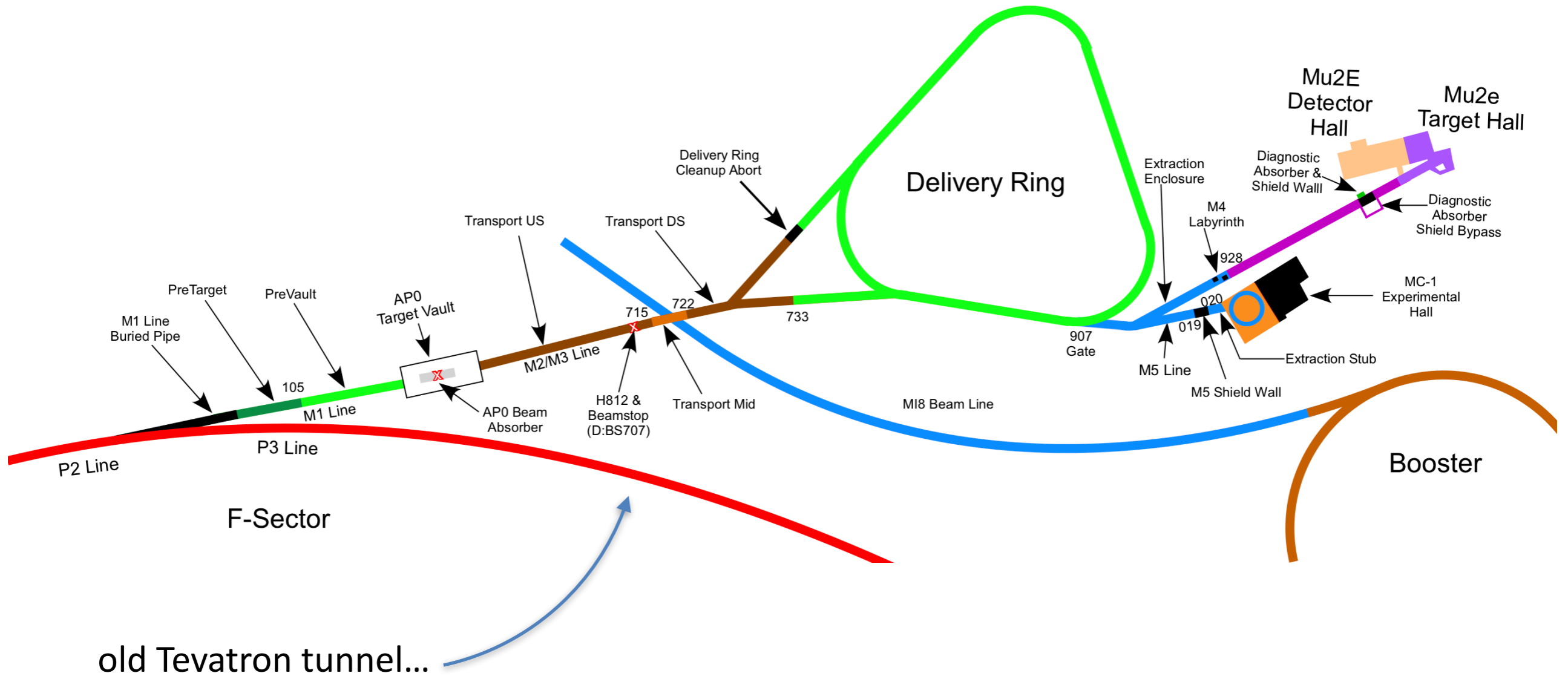
- Delivery Ring has same circumference (slightly larger) than Booster
  - ~500 m
- 8 GeV protons from Booster to Recycler/Main Injector; manipulate bunches to create time structure appropriate for g-2, Mu2e
- Use (not use) target station for g-2 (Mu2e)
- Fast extract (g-2) or slow spill (Mu2e) particles from DR to experiments



# Muon Campus Map



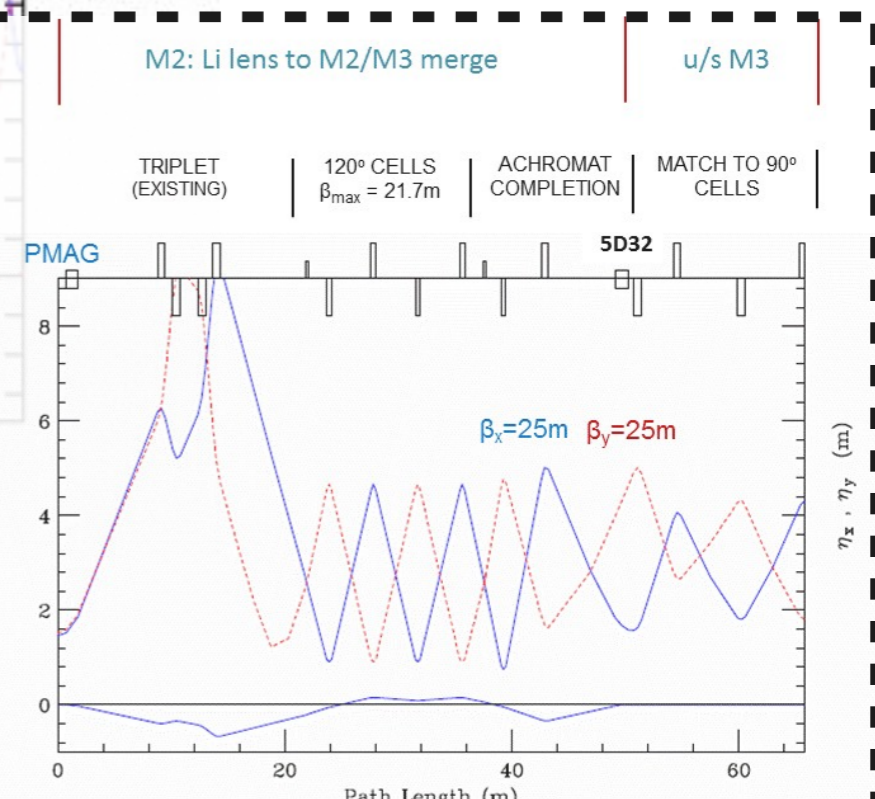
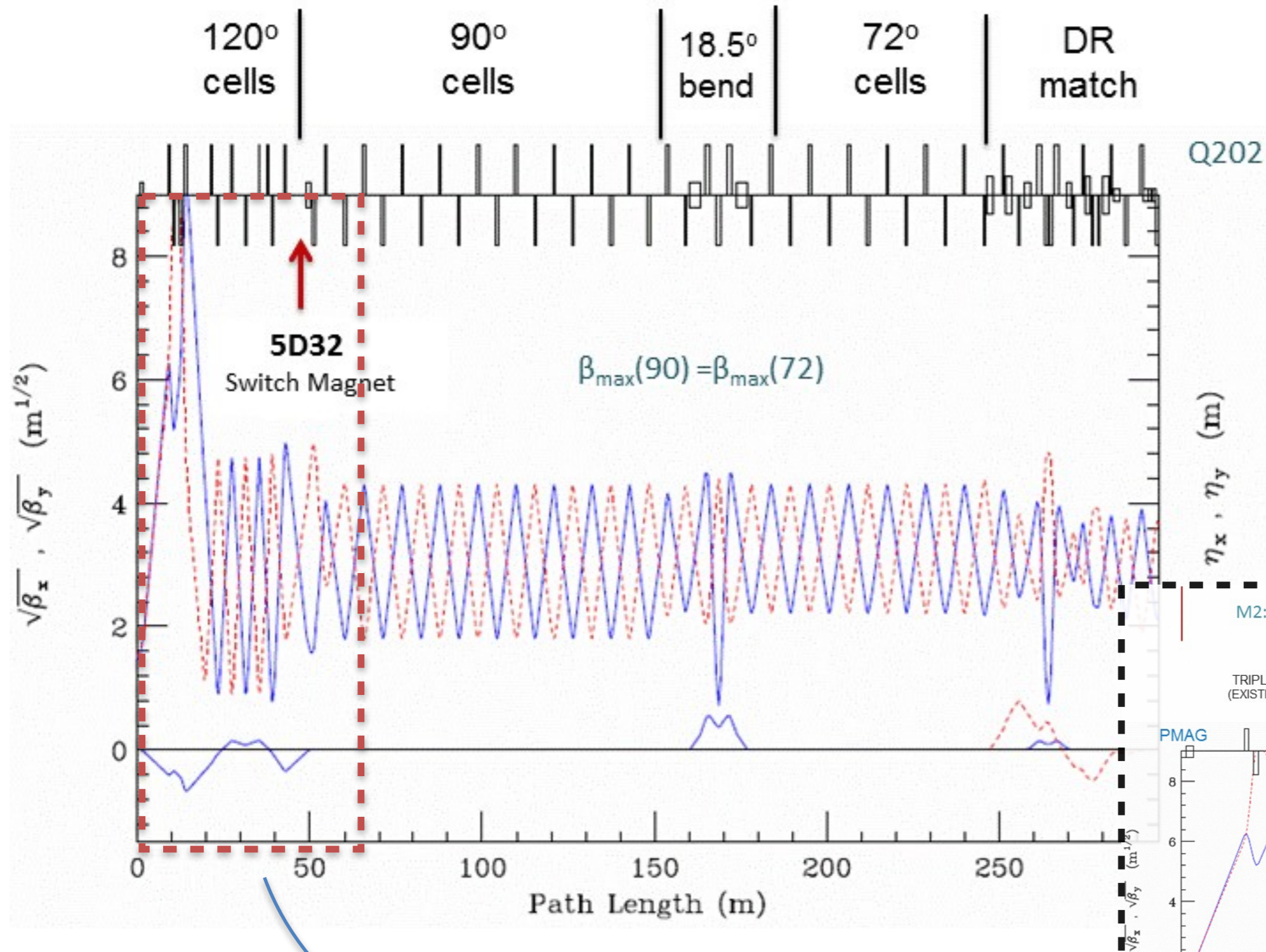
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# Beam Transport Lines

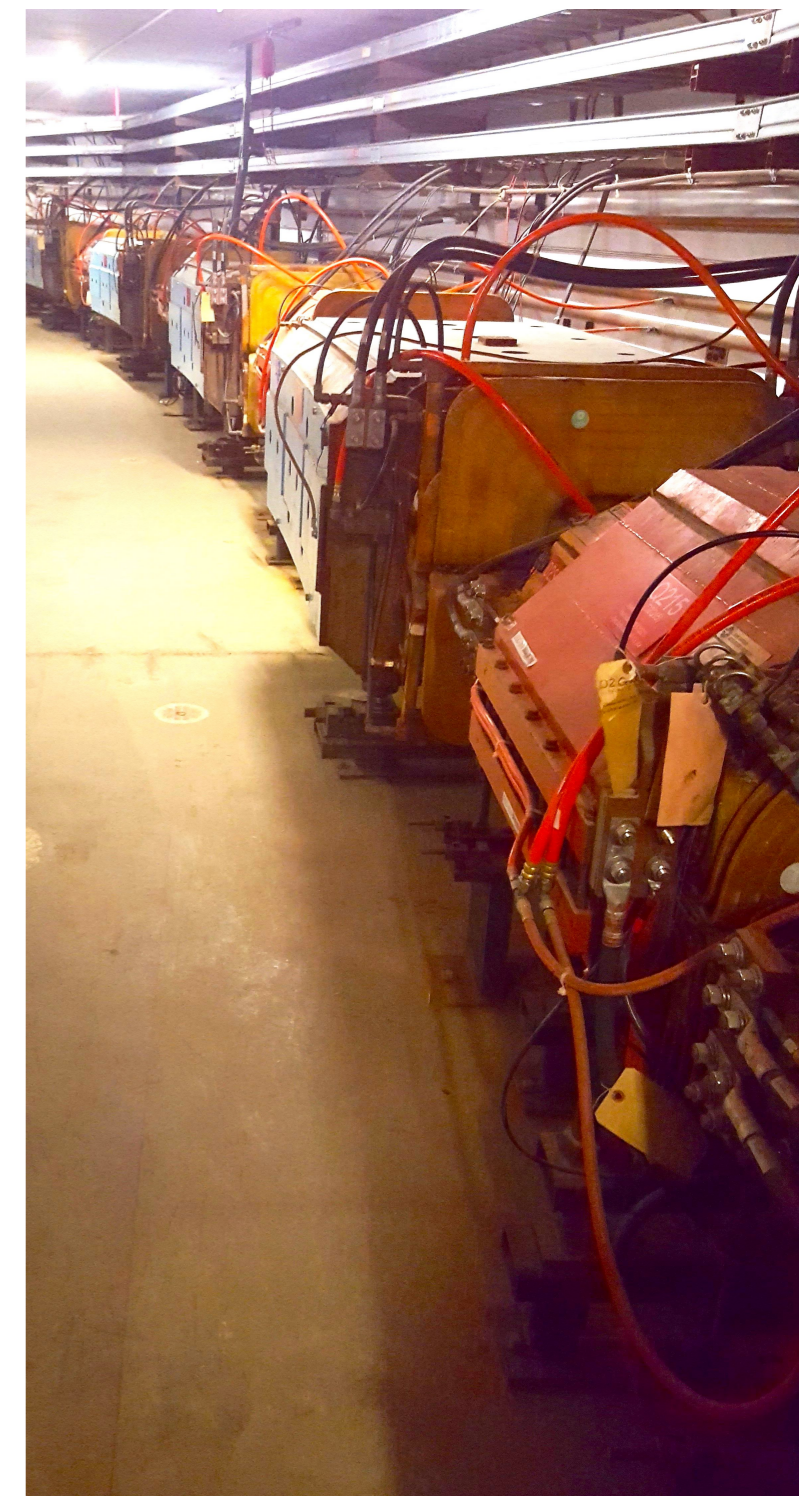
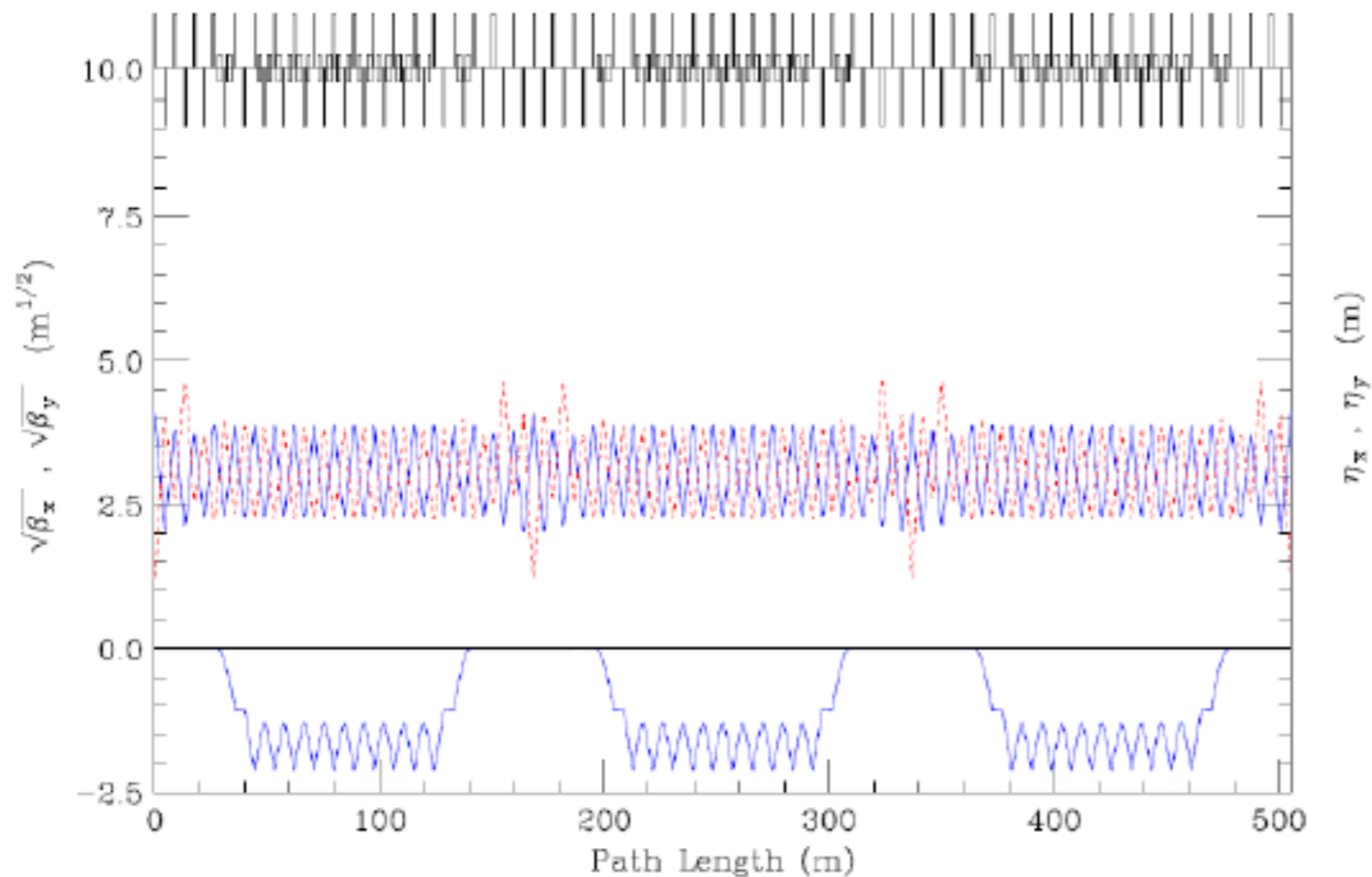


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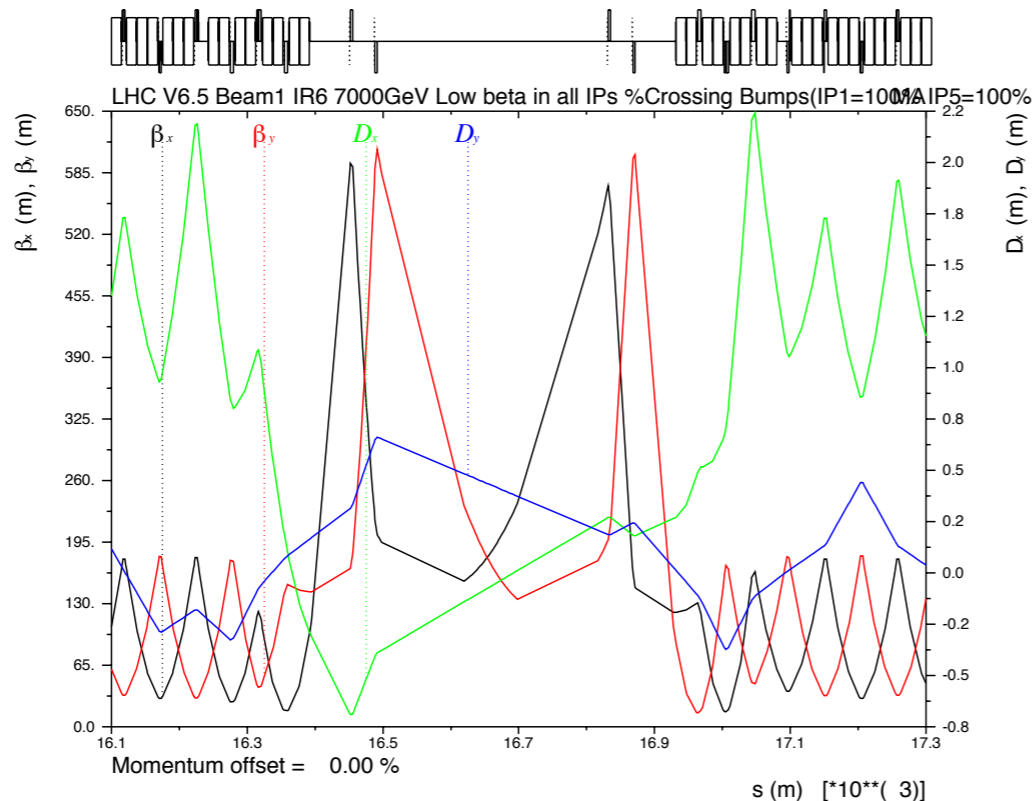
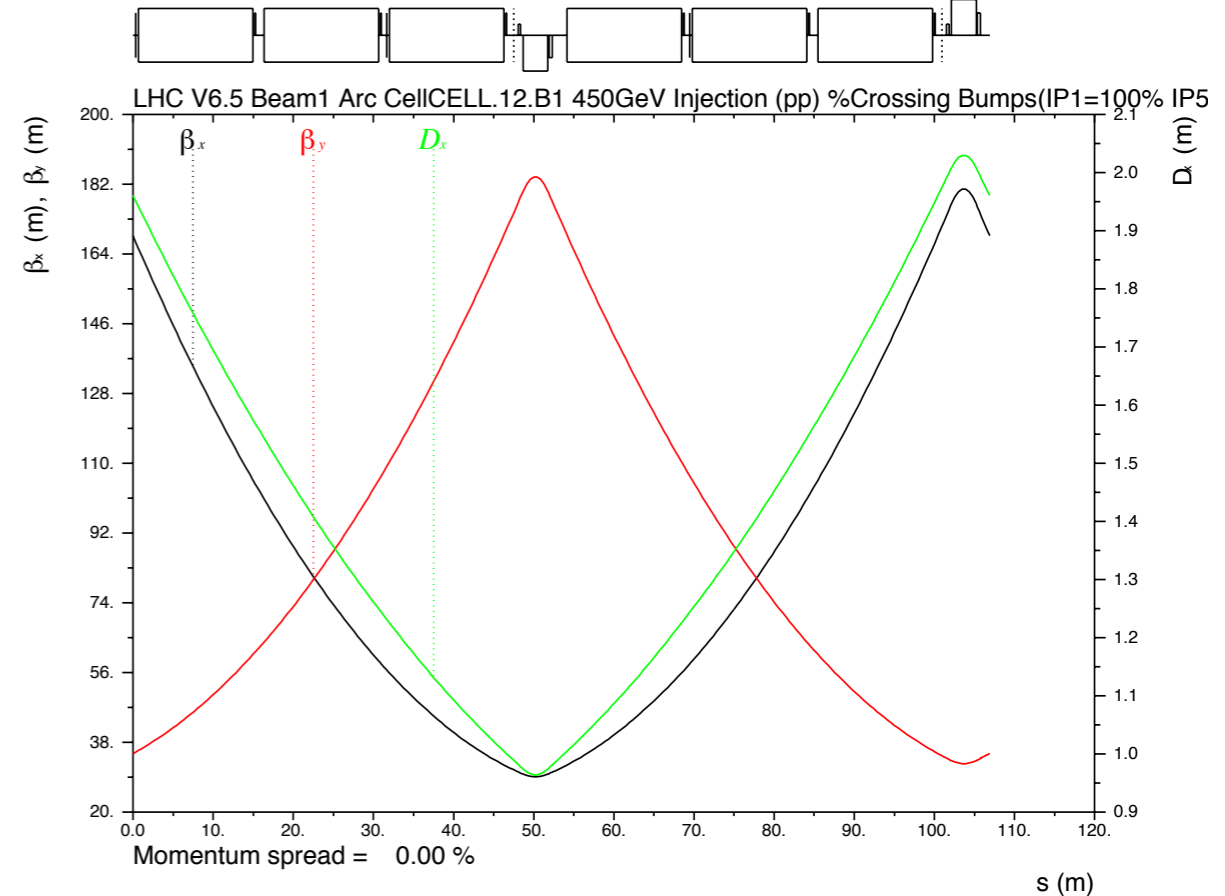
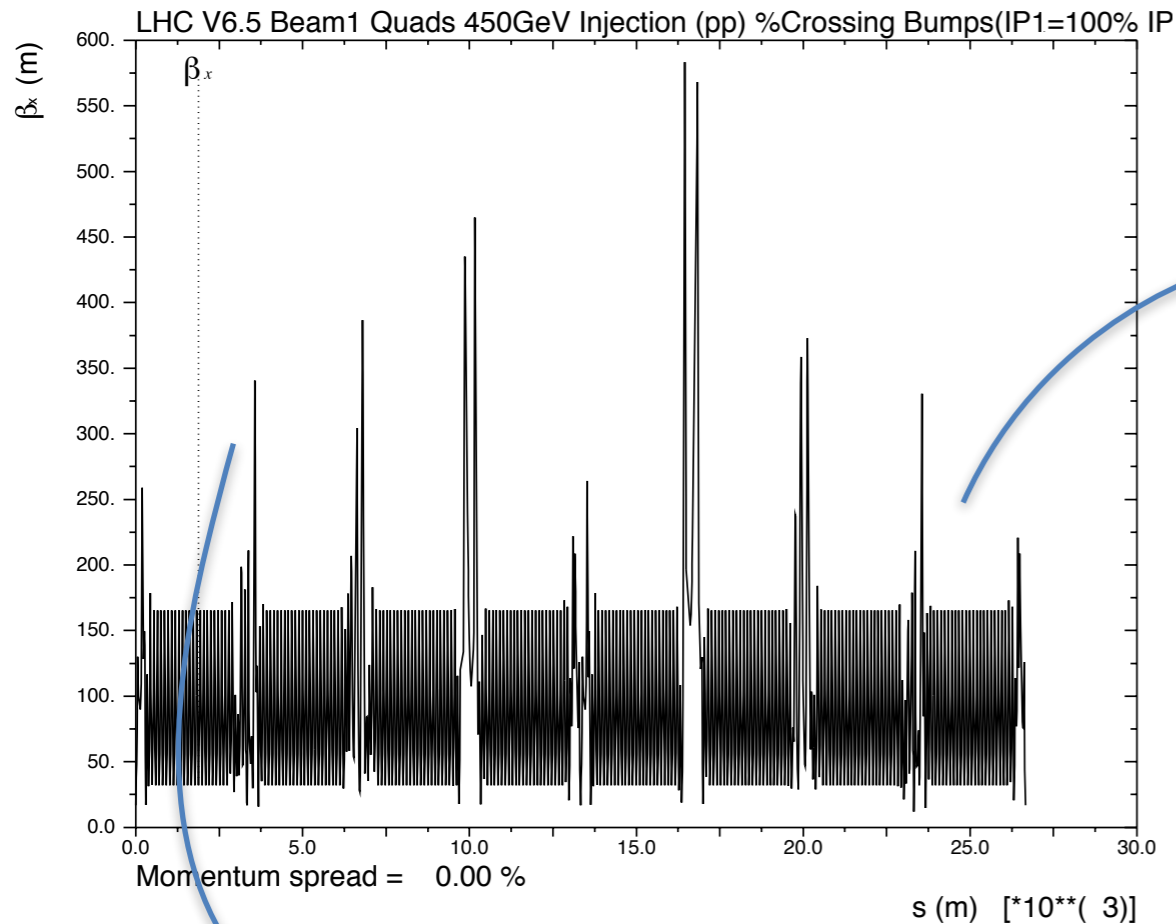


# The Delivery Ring

- Originally, the antiproton source during the Tevatron operation
- Total circumference ~500 m



# Side Note: the LHC



Most of circumference made of FODO cells

8 major “straight sections”, used for injection, extraction, acceleration, *etc.*, and for interaction regions (collisions!)



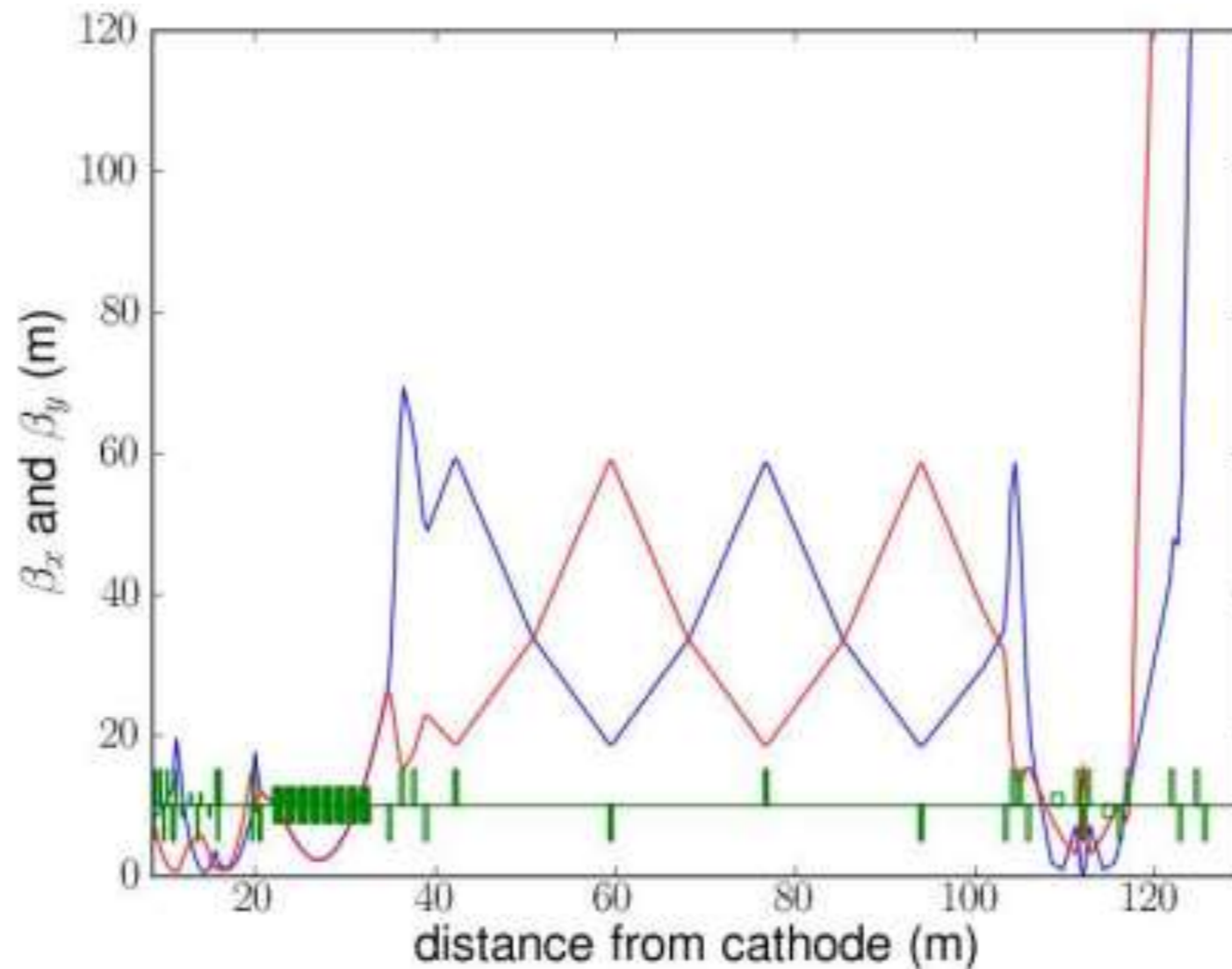
# Electron Injector Linac Optics



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## ■ IOTA (Fermilab)

- IOTA: FACILITY AND EXPERIMENTAL BEAM PHYSICS PROGRAM, *JINST* **12** T03002—2017, S. Antipov, D. Broemmelsiek, D. Bruhwiler, et al



**Figure 8:** Optical functions of the 300 MeV IOTA electron injector linear accelerator. The origin is at the 5 MeV photo-injector cathode, and the beam ends at the high energy absorber.

