

Discussion of commissioning strategy

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Commissioning of Extraction Line.

- 1) *Dispersion correction study*
- 2) *Coupling correction study etc.*

Commissioning of FF Line in parallel to commissioning of extraction line

- *We need many instrumentation devices for the beam tuning.*

Therefore, the first stage of the FF line commissioning is the commissioning of the instrumentation devices themselves.

1) Cavity BPMs

- *BPM offset measurement and BBA study will be done simultaneously with cavity BPM commissioning itself.*

2) Honda monitor or carbon wire scanners

- *When Honda monitor or carbon wire scanners will be ready, 1st level beam size tuning will be started.*

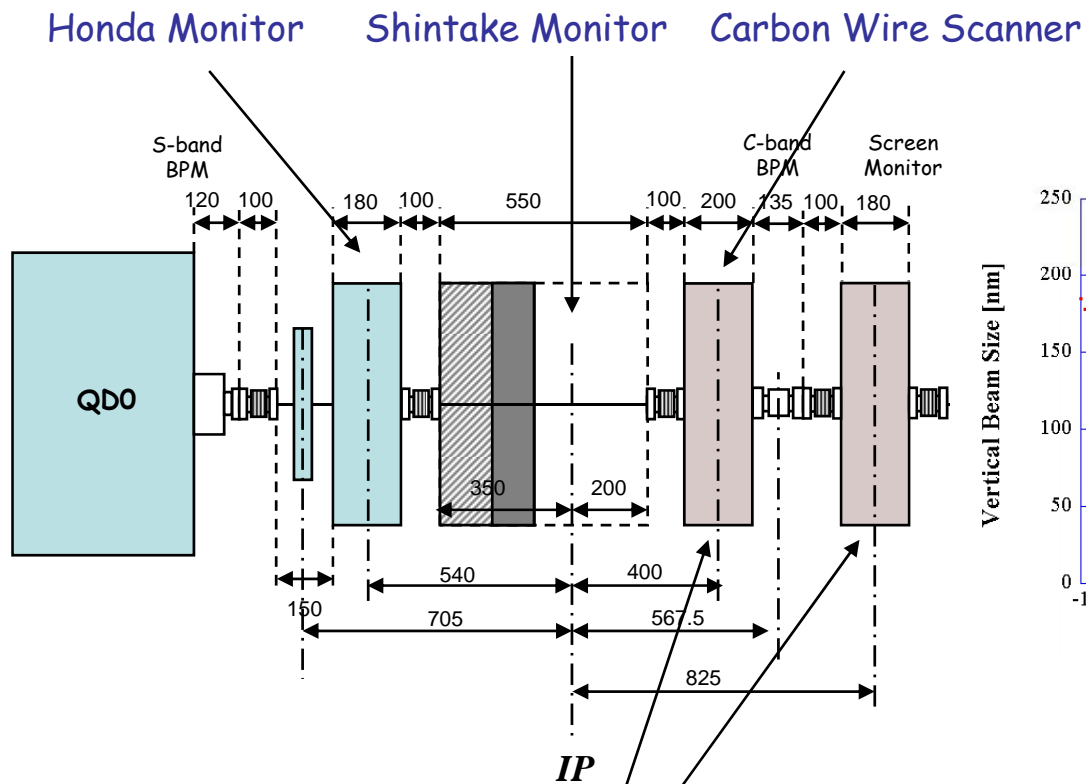
3) Shintake monitor

- *When Shintake monitor will be ready, fine beam size tuning will be started.*

Beam Size Commissioning

Only 1 Beam Size Monitor (Carbon Wire)

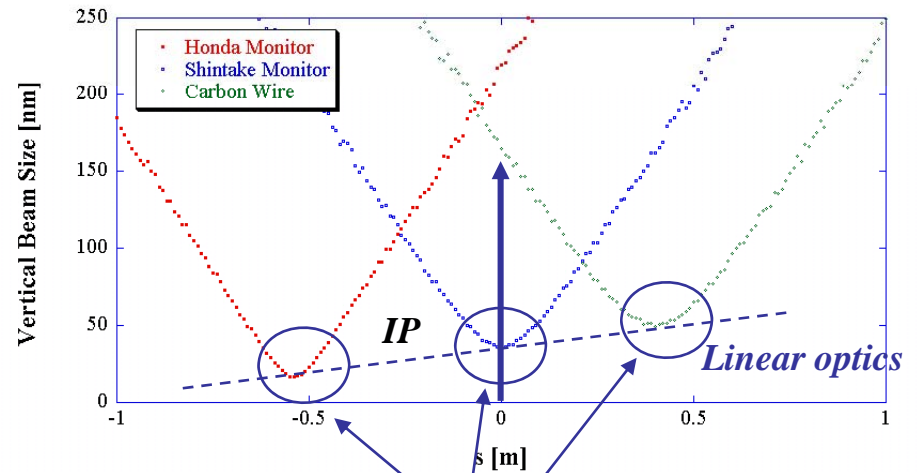
The L^ is changed by changing the strength of the final doublet.*



For the initial commissioning, these monitors will only be used.

Minimum Beam Size at each monitor

Honda Monitor 17 nm
Shintake Monitor 37 nm
Carbon Wire 50 nm

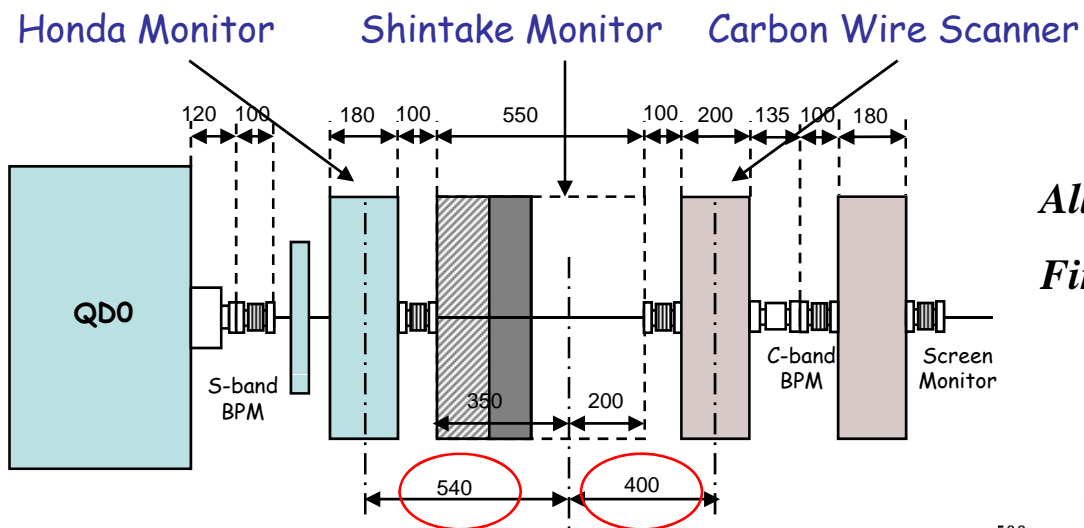


Sextupoles are optimized.

Beam size is optimized at carbon wire, beam size at IP is enhanced by aberration, but the beam size is around 170 nm.

Beam Size Commissioning

Both side of beam monitor (Shintake monitor is not ready .)



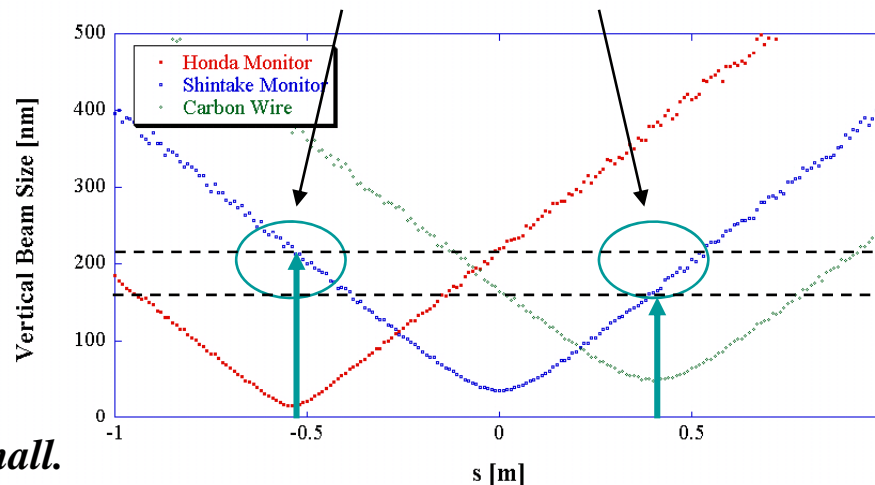
Focal point was changed.

All sextupoles are fixed.

Final doublet are changed to shift the waist.

Beam size tuning

Minimize the beam size at both side of IP



The beam sizes are minimized both side of Shintake monitor.

We can make the beam size at Shintake monitor small.

200nm resolution is enough for both side beam size monitor.