Simulation Update

William Shields

(william.shields@rhul.ac.uk)

WP6 Meeting

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- Separate models for optics tracking & geometry survey

- Stage 1 supplemented with non-EM components
  - WCMs, PMs, shutters, shielding, vacuum valves, correctors

- EM components & collimators in identical <u>fixed</u> positions in both models

- Basic geometries from CAD
  - Drift aperture reduced to match CAD flange dimensions. Separate discussion.

- Survey sent to Clive – includes new injection line

Space reserved for FFA ring

Space reserved for shielding wall

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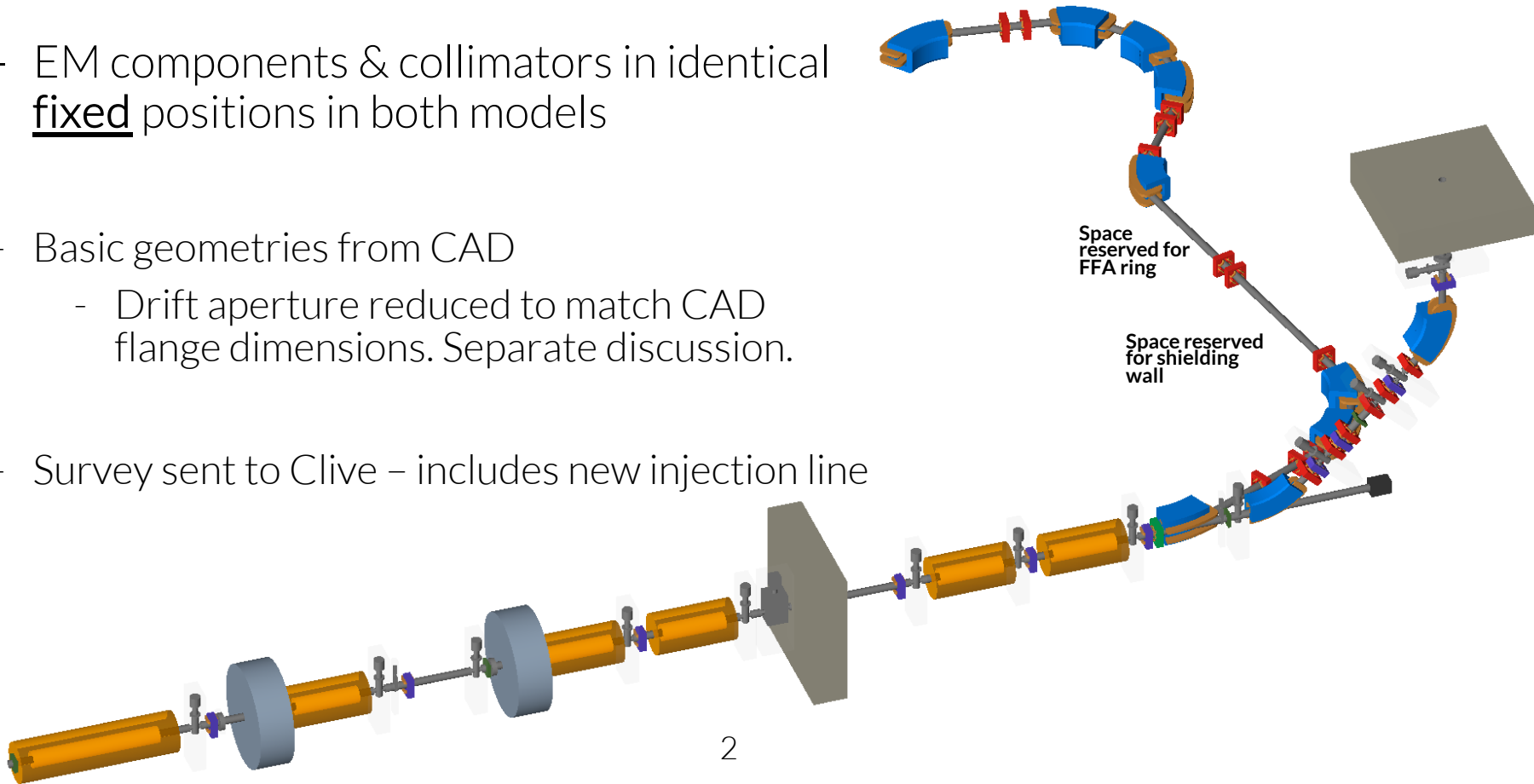
Proposed Stage 1 Changes

	Update	Reason
A	**+1.0185m*** between GL2 & RF CAV 1	Non optics components
B	**+ 0.127m*** between RF CAV 1 & GL3	Practical space allowance
C	**RF CAV 02** moved upstream by **0.0546m***	Practical space allowance
D	**+ 0.2m** between GL4 and GL5	Non optics components
E	**+ 0.4m** between GL4 and GL5	Non optics components, Wien filter
F	**+ 0.2m** between GL6 and GL7	Non optics components
G	**Octupole** moved downstream by **0.15m***	Practical space allowance
-	**All collimators** now **0.05m*** long (space taken from neighbouring drifts)	Practical space allowance

*Not fixed

- Updated GPT model complete, currently re-optimising for space-charge
- Zscaler (VPN) issues on my machine (server access to run GPT)
  - Alternative machine (RHUL)

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Summary
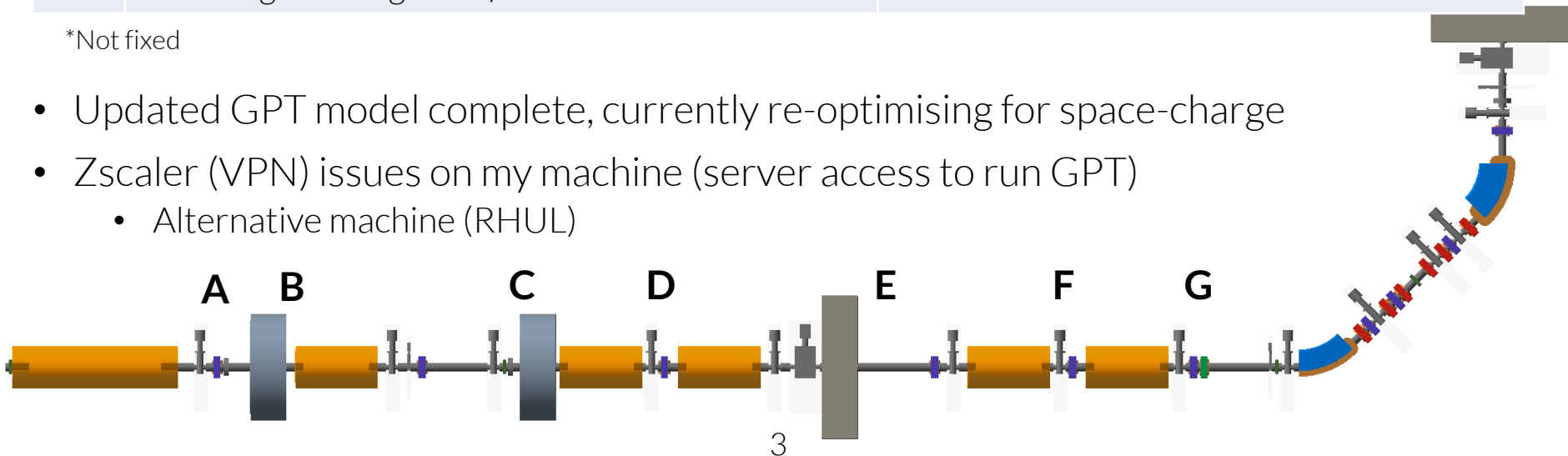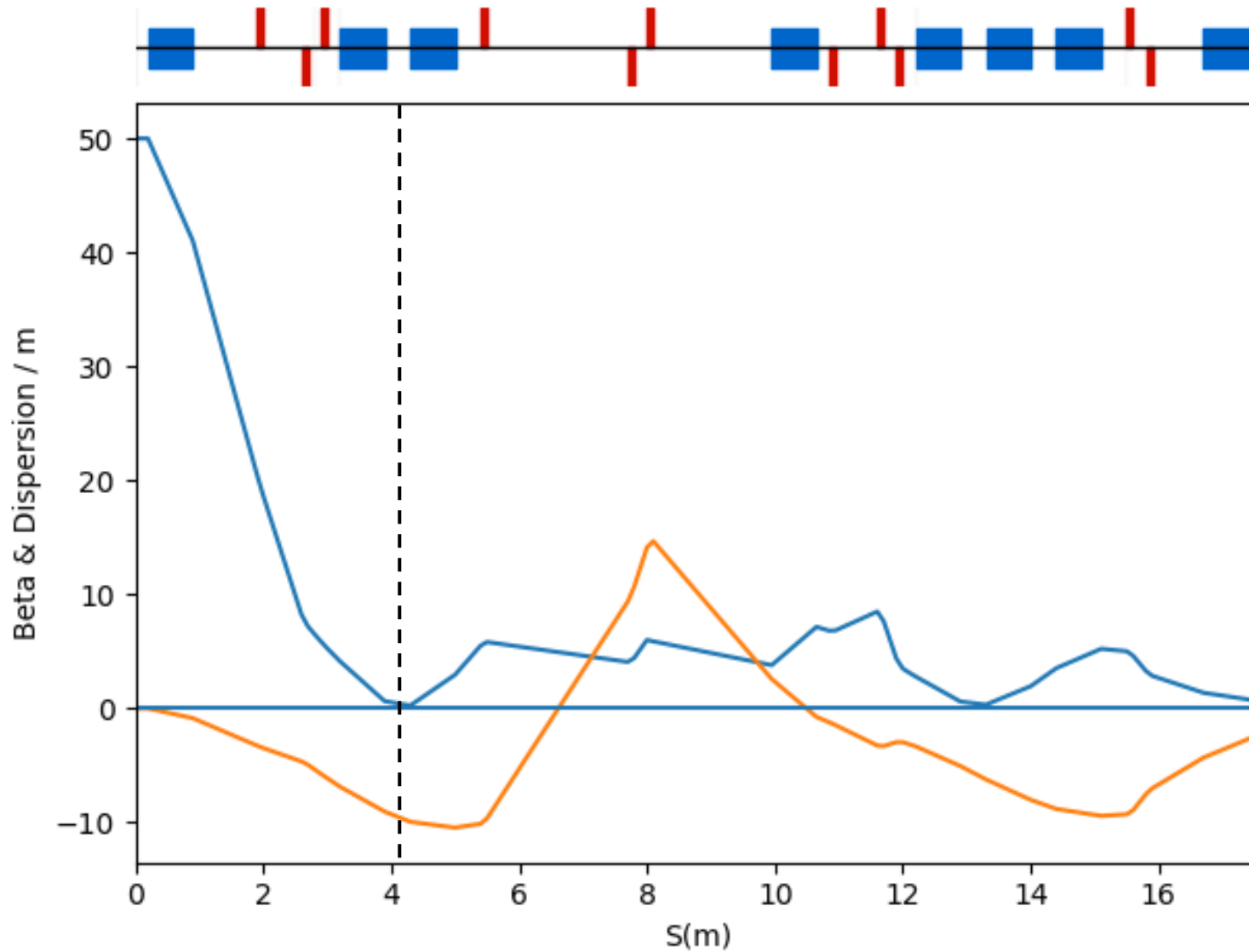
- **Done**:
  - Sync BDSIM and CAD model
    - Include drifts named to match components (profile monitors, shutters, etc)
    - Feedback to Clive
  - GPT injection line model update

- **Ongoing**:
  - Optimise updated stage 1 for low beta
  - FFA injection line performance simulations
  - Base line design update report write-up
  - RF-Track – particle reader from BDSIM/GPT files.
  - Gabor lens in BDSIM

- **Todo**:
  - Performance evaluation of ± 5% beams
  - Update models of alternative baseline design (v5.5)
  - +….