

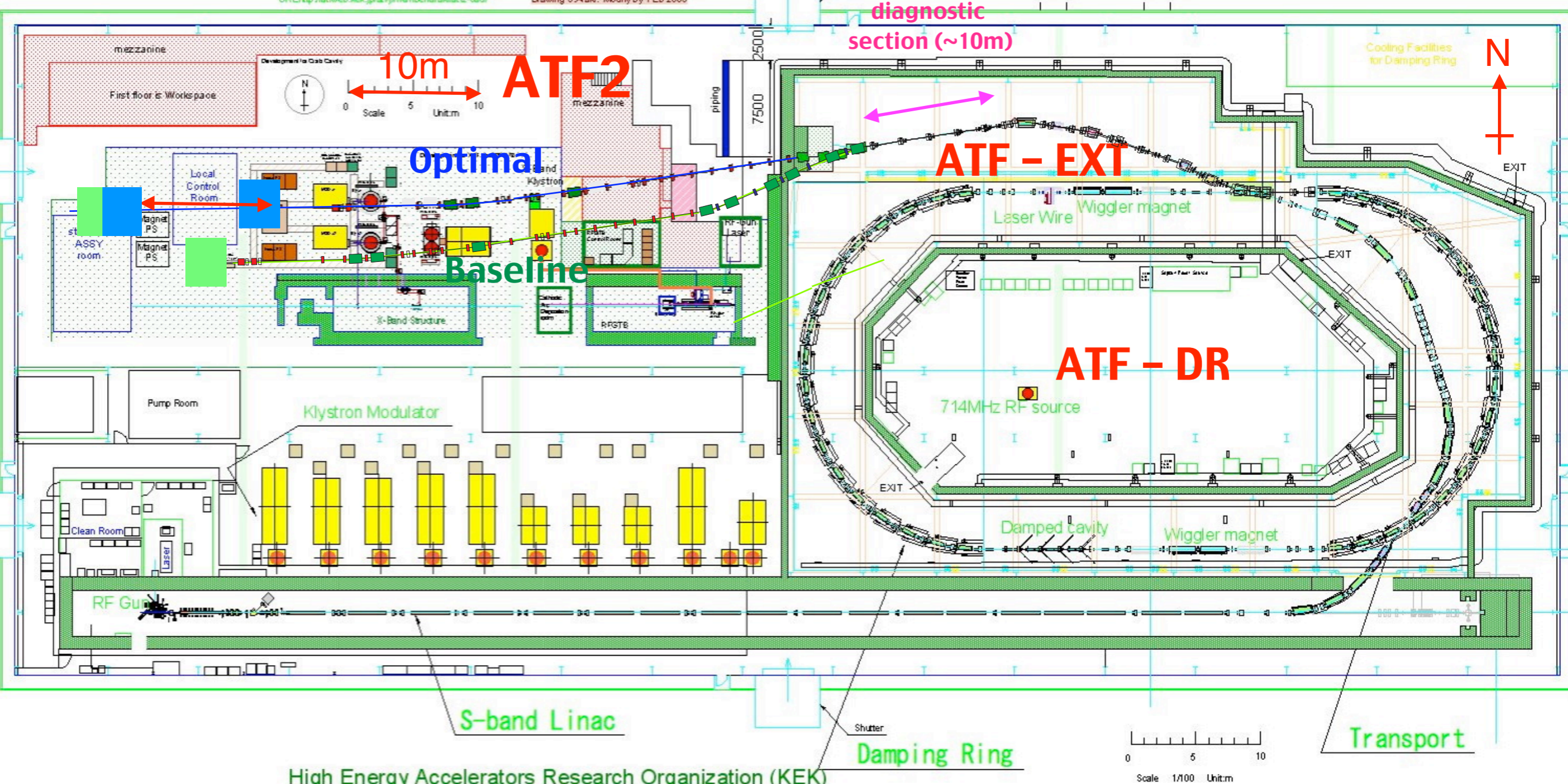
Series of meeting/workshop

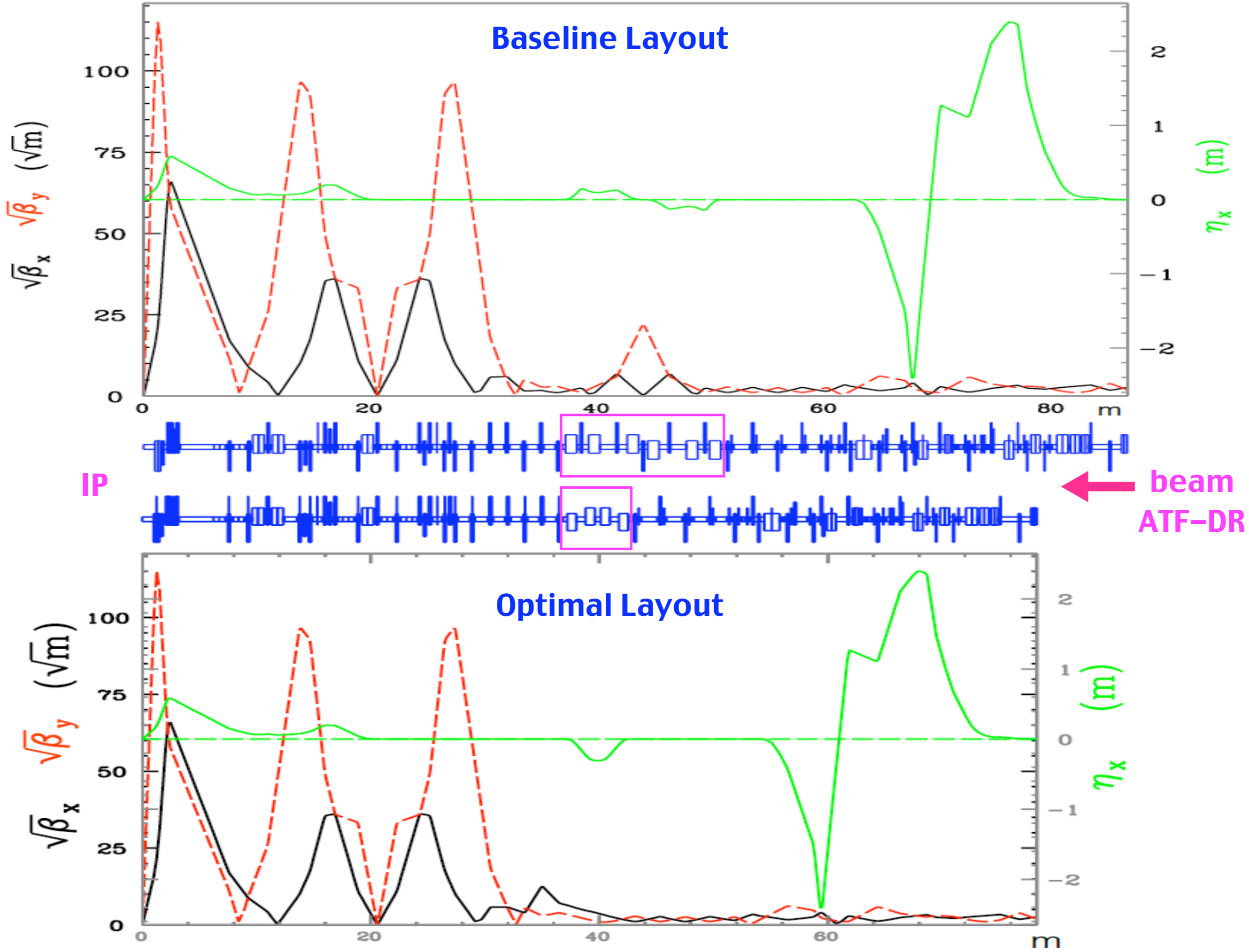
- 28th May: Meeting on International Collaboration for ATF2, and Editorial board meeting of the proposal
- 29th May: The ATF2 Tolerance Meeting
- 30–31st May: The 3rd Mini-Workshop on Nano Project at ATF

Baseline and Optimal Layouts

Final Focus system (36.8m)

URL: <http://atfweb.kek.jp/atf/member/arakita2-cad/> Drawing S.Araki; Modify by FEB 2005





Baseline/Optimal Layout

- **The baseline layout avoids the KEKB crab cavity region by an S-bend**

Problems in the Baseline Layout

- **The total length longer**
 - **Extra cost**
 - **Limited space for additional section (skew correction, diagnostics section)**
- **The baseline hits a pillar supporting the building**
⇒ **A steel frame work needed**
- **The S-bend may have an influence on the beam dynamics**
(at least it introduces unnecessary complication)

	Baseline	Optimal
Cost in Oku yen	3.9¹⁾	3.5
Section ATF ⇒ ATF2	6Bs + 5Qs	4Bs
length	14.5m	6.3m
Length of ATF2	52.3m	43.1m
Possible additional space²⁾	5m	13m

**1) Cost for the steel-frame work not included
(waiting for estimation)**

**2) available space for additional skew correction/diagnostic section
(M.Woodley) 10m is preferred. Not included in the total length.**

10. Conclusion

- **In May 28 meeting on International Collaboration for ATF2, the participant's rough consensus points to Optimum beamline layout to go with Timeline 3 (or 2). Participant's preference appears not to delay the report completion schedule (i.e. mid-June, BDIR WS), but how practically to achieve it remained an open issue.**
- **We take a two-part approach to completing the ATF2 report.**

Part 1: Complete by BDIR WS in June, including the scientific goals, project deliverables, outlines of the technical designs, what need to be built.

Part 2: Complete by Nano-beam WS in October, including the timelines, work packages, task sharing, collaboration structure, project management.

6.ATF2 International Collaboration in Future

- **StaFF : Stabilization of the Final Focus of the ILC**
- **CSR Study in Damping Ring**
- **Positron Generation based on Laser Compton Scattering in Damping Ring ?**
- **Gamma Collider Study ?**
- **Photon Nucleon Collision ?**

7. Present Research programs at ATF

- 1. Pol. Positron generation R&D at EXT
- 2. Laser wire R&D in Damping Ring
- 3. High quality electron beam generation by photo-cathode RF Gun
- 4. X-SR Monitor R&D
- 5. ODR R&D
- 6. Beam Based Alignment R&D
- 7. Nano-BPM project of SLAC, LLNL and LBNL
- 8. Nano-BPM project of KEK
- 9. FONT project
- 10. Laser Wire project at EXT
- 11. Fast Kicker Development project
- 12. Fast Ion Instability Research
- 13. Multi-bunch Instability Study

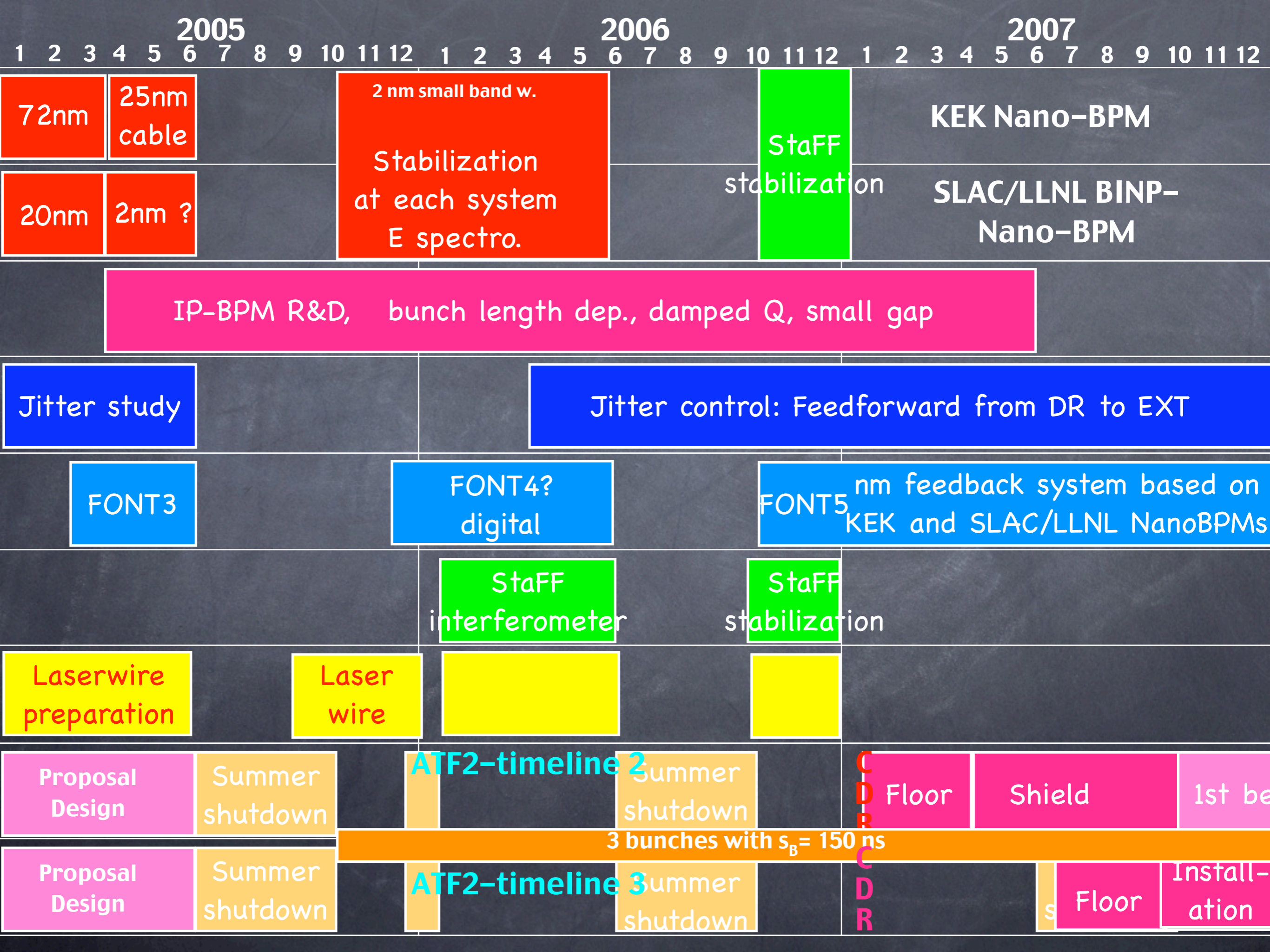
“Strategy for Commissioning the Beam” chapter of ATF2 proposal

Frank Zimmermann’s questionnaire and some answers

- Are all magnets on movers? → yes, (really all ? by Tor)
- Are there dipole steering correctors? → yes, several. Optimal locations TBD
- How many BPMs and are they tightly attached to magnets
→ attached to all quads, sextupoles and bends (only Qs considered)
- Are there beam loss monitors and current monitors (toroids)? → Yes. Location?
- Are all magnets on individual power supplies? → Yes.
- Do we have conventional wire scanners and/or screens/profile monitors?
→ Yes. Locations and how many?
- What other existing diagnostics may be suitable for the commissioning? –
> additional 10m diagnostics section
- Does the various diagnostics, including BPMs, read out bunch by bunch or single bunch or integrated over a train? → Yes, all
- how many BPMs do we need downstream of IP (at FFTB the precision of alignment of the downstream part was worse than for the upstream part, because of smaller number of BPMs that could be used.)

Other minor optics improvements needed

- To make the design more construct-able:
 - change bends from sector bends to rectangular
 - use 0.8m bents (as used in ATF) instead of 1m for better field stability and more space
 - space near octupoles is too tight → modify
 - QM14 is the strongest quad, and is close to max field of BT quads → reoptimize



- Welcome corrections on the schedule for individual R&Ds
- ATF R&D Programs and milestones/schedule
- more than 20 including DR studies
- to be presented at SNOWMASS