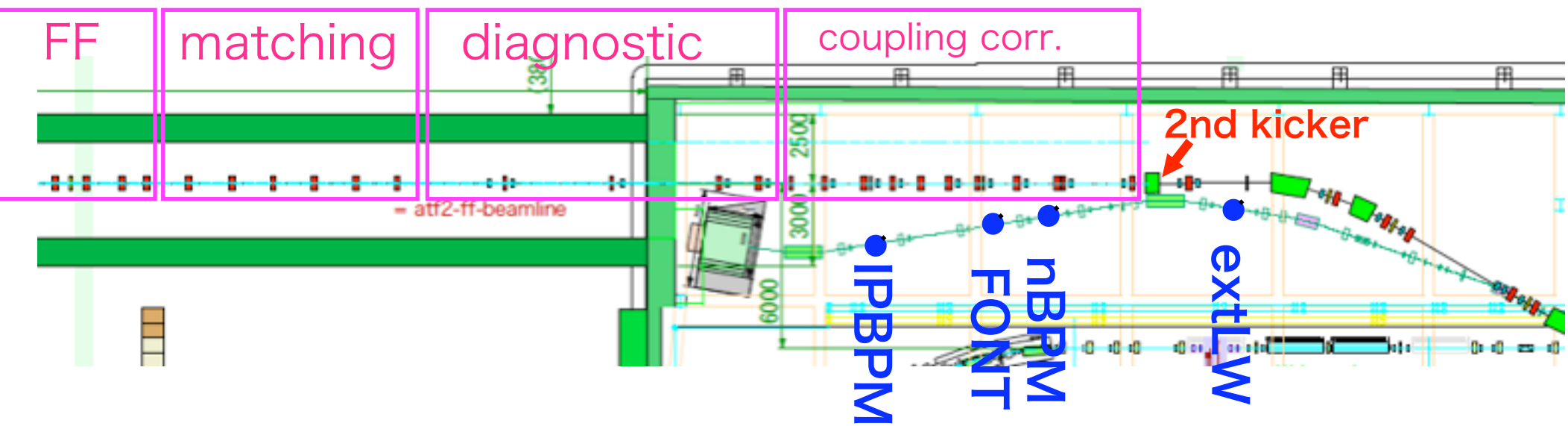
Re-location session

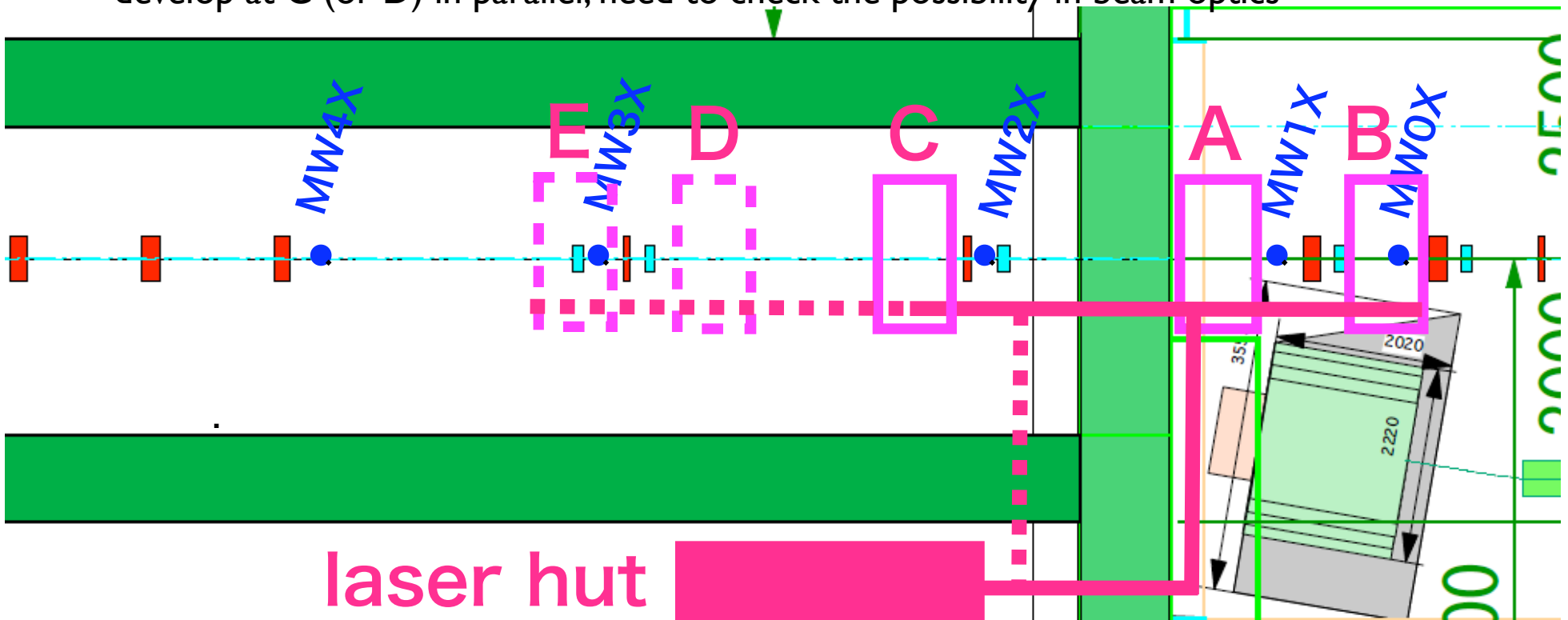
1hour session on 18Dec.2006, convener:Y.Honda

- Goal: determine the layout of the devices which exist in the existing extraction line.
  - after this discussion, we would like to make a decision by the end of Jan.2007.
- Devices to be considered here:
  - Ext.LW: multi-IP stations, micron-size IP
  - nanoBPM: LLNL triplet system, the largest device
  - IP-BPM: compact 3-BPM study
  - FONT: kicker(s), stripline BPMs
  - space for installation of other devices in future
- Where they move to:
  - downstream of the double kicker and upstream of FF entrance
  - needed space, characteristics of optics, upgradability



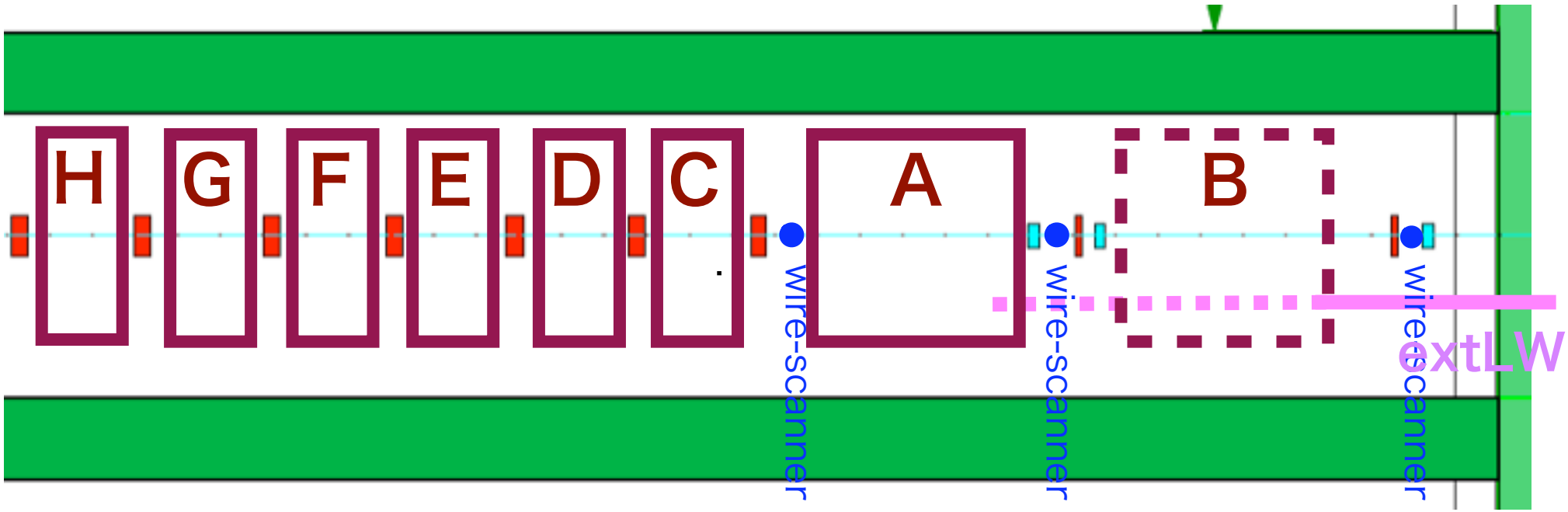
Location of laserwire-scanners

- Looking for 1m free spaces in the diagnostic section
  - 1.2m free space at A
  - 0.85m including a wire-scanner at B
- Staged installation plan for first few years
  - A (2D LW) -> B (combined system) -> C
  - A (2D LW) -> C (LW) -> B (combined system)
  - C (2D LW) -> A -> B
- possibility to extend D and E station later
  - Since D and E might be good candidates to install other big devices in future, we should not decide them now
- micron size IP assuming dedicated optics
  - develop at C (or D) in parallel, need to check the possibility in beam optics



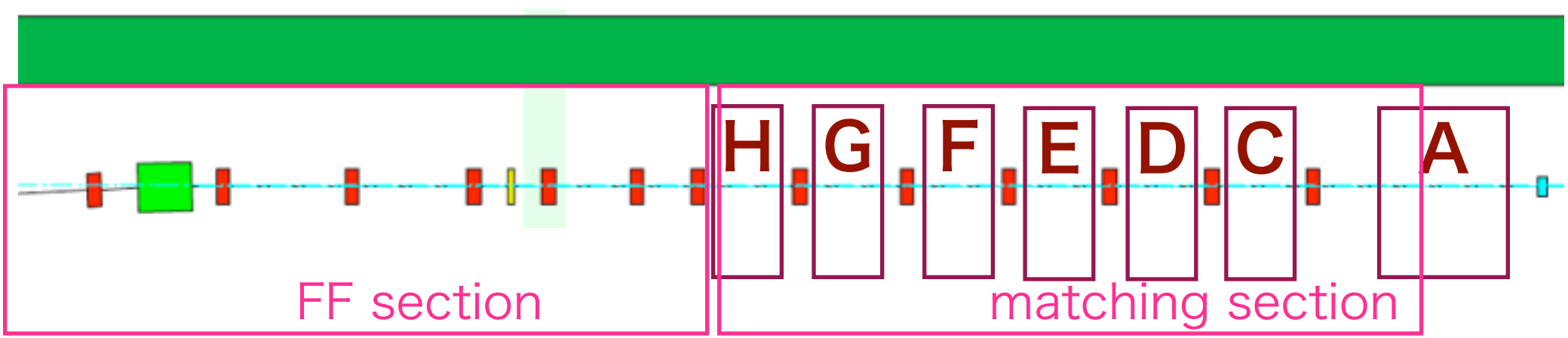
nanoBPM triplet

- This also is not a necessary device for ATF2 comissioning
  - beam orbit jitter of 100nm can be measured by Q-BPM(s)
  - triplet is needed only for checking its resolution
- This could be a good test stand to check resolution of new BPMs
  - put the new BPM next to this triplet without any magnet in between
- Since this is the largest device, there are only two candidates, A or B.
  - Since LW will be developing from the upstream in furure, I suggest A, the second largest area.
  - 2.5m space is available in A
  - leave B for the cases to install a large device in future or extLW extention.
- C~H are in the matching section, 0.96m space is available for each section
  - KEK BPM system will be located either of them



IP-BPM and other compact devices

- C~H are in the matching section, 0.96m space is available for each section
  - possible to use as test stands for various instrumentation
  - no steering magnet is designed at present, but beam scan will be necessary for testing various devices.
- IP-BPM
  - continue the development work during ATF2 comissioning
  - either C~H, relation with nanoBPM should be discussed
- others
  - new type IP-BPM (short decay constant)
  - cavity BPM for energy spectrometer
  - bunch length monitor
  - reference cavities
  - many other ideas



FONT kicker(s)

- Beam orbit stabilizations considered at present
  - fast feedback for multi-bunch mode
  - slow feedback from earlier pulses
  - feedforward from DR to EXT
- location
  - It will be useful if it is located in the upstream of diagnostic section
  - For the stabilization dedicated for IP, we could consider FF or matching section later.
- devices
  - check from the view point of beam optics is needed
  - kickers
    - position and angle for both X and Y direction? then need 4 kickers or 2 combined kickers
    - the existing FEATHER kicker is 0.5m in length, there are many candidates found in the coupling correction section.
  - bpm
    - some quads have strip-line BPM, others have Q-BPM
    - dedicated stripline BPM may be needed
    - short decaytime cavity BPM could be installed