Front End - Decision Point

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Getting close to the point where we have to make a decision on which front end lattice to take forward to engineering design.

Options are:
- FS2A lattice i.e. baseline
- Short bunch lattice
- Shielded RF lattice
- HP gaseous insulated lattice
- High B-field lattice
- Not too late for others!

To make a decision, need an idea of:
- Cost
- Performance
- Technical risk

Hope to make a decision by Fermilab IDS meeting
- 2 months away!
- Great to come with a consensus by then
Cost

- Too early for costing
- But we can at least make an inventory of required hardware
- RF cavities
  - frequencies
  - voltages
- Coils
  - physical size
  - current densities
- Absorbers for cooling
- Other stuff
  - e.g. High pressure gas equipment
Performance

- Main performance criterion is number mu per proton in 30 mm acceptance
  - Also emittances
- What about shorter bunch train?
  - Need feedback from storage rings to assess how useful this is
- Made an area to store lattices, beam files, etc
  - http://www.astec.ac.uk/groups/beams/users/rogers/Front_End/Beams_and_Lattices/
Technical risk

- How to assess technical risk?
  - RF cavities in B-fields are still an unknown
  - High pressure gas insulated cavities?
  - General physical robustness of lattices?