IDS-NF Accelerator WG Baseline Update

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Sub-Topics with Updates

- Not necessarily changes, most are more precise specifications
- Proton driver
- Front end
- Decay ring

Proton Driver

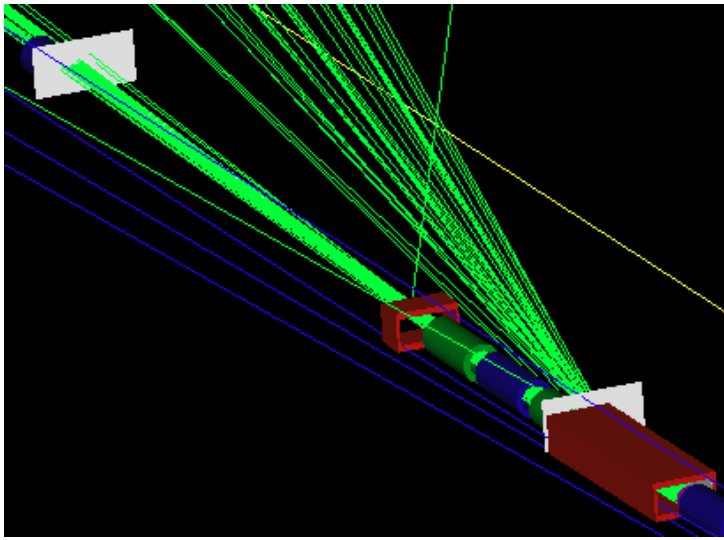
- Bunch train spacing (between trains): 80 μs
  - Based on beam loading in FFAG
- What to do for IDR
  - Requires commitment from “example sites”
  - They will decide what to do

Front End

- Baseline: Study IIa, but with more efficient buncher and phase rotation
  - Rationale: with unknown risks, best to choose technically superior alternative
- Appendix with risk-mitigating alternative
  - Significantly less detailed than baseline

Decay Ring

- Polarimeter
  - Detector group: detailed specs for what is needed
  - Detector perpendicular to beam path, in long drift in matching section
  - Verify:
    - Electrons clear magnet
    - Detector clears beam



Decay Ring

- In-ring Cherenkov
  - Beam divergence distribution
  - Beam blowup calculation only without windows
  - Accelerator: find acceptable window thickness
  - Detector: can detector work with that thickness?
  - Determine necessity of this measurement
    - Have 1% flux uncertainty without
    - Could use second detector at 1 km or so

Alternatives

- Some “risk-mitigation” alternatives included
- Significantly less detail in IDR than baseline
- Particular alternatives discussed
  - Solid target
  - Front end alternative
  - Scaling FFAG replacing second RLA