IDS Acceleration Systems Work Plan

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IDS Work Plan

- This talk: only work to finalize baseline design
- Avoid discussion of potential improvements
  - Baseline design needed as a point of comparison

Proton Driver

- No specific proton driver is part of the IDS
- Proof of principle meeting IDS requirements
- Existing designs either
  - Don’t meet specs
  - Systems not demonstrated (e.g., NFFAG)
- More detailed designs of proton driver scenarios
- Demonstrate that designs meet IDS specs

Target

- Analyze MERIT data (Kirk)
  - Acceptable bunch spacing especially important
  - Repetition rate
- Engineering of target infrastructure

Capture, Phase Rotation, Bunching, Cooling

- Convert ICOOL files into readable format (Fernow)
- Start engineering and costing work
- Determine what level of magnetic fields acceptable on cavities (MUCOOL)
  - Re-design systems if we need lower fields

Acceleration

- Design of NCRF acceleration just after cooling
- Design of SCRF linac (Bogacz)
- Design of RLAs (Bogacz)
  - Linear design, chromatic correction
  - Physical layout: switchyard, arc crossings
- Design of FFAG (Berg)
- Transfer lines, injection/extraction, etc.
- Tracking (Méot)

Storage Ring

- Update design to meet requirements?
- Tracking (Méot)
  - Compute neutrino flux
  - Pass same distribution through all systems