FY12 Acceleration Study Plans

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FY12 Plan, Priority Order

A. Lattice design for IDS-NF linacs and RLAs
B. Beam dynamics studies and finalized design for IDS-NF FFAG
C. First-pass design of final stage of muon collider acceleration with hybrid synchrotron
D. Simulate grain-oriented steel magnets, evaluating capability of current codes and developing plan for accurate 3-D modeling

Budgeted Effort Breakdown

Item	BNL	Jlab	Total
A. Linac/RLAs	0.25	0.10	0.35
B. FFAG	0.50	0.00	0.50
C. Hybrid Synchrotron	0.50	0.00	0.50
D. Magnets	0.50	0.00	0.50
Total	1.75	0.10	1.85

- Linac/RLA: BNL human doesn't currently exist
- Linac/RLA underfunded: hoping for freebies

Budget Increase Scenario

- In sequential order, for unrealistic increase
- Fully fund the linac/RLA design (+0.5 FTE)
- Complete (vs. first-pass) hybrid synchrotron design (+0.5 FTE)
- Hybrid synchrotron collective effects (+1.0 FTE)
- Full muon collider acceleration scenario (+0.5 FTE)

Budget Decrease Scenario

- In a pickle here, due to small numbers
- Practical scenario is no BNL postdoc, who is directed to linac/RLA currently. But completing this is high priority.
- Magnet effort is lowest priority, but human for that already exists
  - Redirected elsewhere in MAP, or
  - Contribute elsewhere in acceleration, but with learning curve.

Final Thoughts

- Linac and RLA for IDS-NF
  - We are committed to doing this
  - Much work to do to make believable design
  - Current MAP effort probably insufficient
  - Additional MAP resources, particularly to JLab, would greatly help ensuring that this gets done
- Additional manpower beyond this would really help bring forward muon collider acceleration

IDS-NF

- Staged performance low energy neutrino factory: lower performance, but upgradable
  - Front end: study reduction in RF (+1.0 FTE)
  - Proton driver staging (+1.0 FTE)
- Engineering support, particularly for target
- May be losing European support