SiD LOI

I. Introduction
- A. SiD Rationale
- B. SiD Selling Points
- C. SiD Collaboration and Resources
- D. SiD Plans for EDR
- E. Guide to this Document

II. The SiD Detector
- A. Global Issues
  1. IR Hall
  2. Beamline and Forward Systems
  3. System Engineering, Integration, and Assembly
  4. Push Pull
- B. Electronics Architecture
  1. Frontend Electronics and Power Distribution
  2. Data Concentrators and Fiber Plant
  3. DAQ
  4. Software Trigger
- C. Integrated Tracking
  1. Vertex Detector
  2. Central and Forward Tracking
  3. Ecal as MIP Vertor Finder
  3. Simulation of the Tracker
  4. Reconstruction Efficiency, Tracking and Vertexing Performance
- D. Calorimetry
  1. Ecal
  2. Hcal
  3. Performance Energy, Spatial, and Angular Resolution; Jet Energy Resolution, Electron ID
- E. Magnet Systems
  1. Main Solenoid
  2. DID
  3. Compensating solenoids
- F. Muon System
  1. Flux return iron
  2. Muon detectors
  3. Performance
- G. Forward Calorimeters
  1. Lumcal
  2. Beamcal
  3. Gamcal
- H. Polarimetry and Energy Spectrometer
  1. Designs
  2. Performance

I. Offline analysis
J. Simulation of SiD

III. Detector R&D Needed (include in EDR sections?)
A. Outstanding issues
B. Milestones and Schedule
C. Personnel Resources and Support

III. Integrated Physics Performance
A. Simulation of backgrounds
B. Tracking Benchmarks
1. Higgs Recoil Mass
2. Lum weighted Ecm
3. Smuon endpoints
C. Cal Benchmarks
1. ZH ->qqbb
2. t tbar
3. ZHH
4. Missing Energy
D. Vertex Benchmarks
1. b bbar Assymmetries
2. Higgs Branching Fractions
3. stop->c neutralino
E. Lepton ID Benchmarks
1. Smuons
2. Selectron ID
3. Heavy Quark Jet
F. New Physics Benchmarks (Enlist some theorists)
1.

IV. Costs

V. Plans for EDR
A. Timetable and Milestones
B. Manpower and Resources Needed
C. Manpower and Resources Available
D. When must R&D Be Done? Technologies Selected?
E. Draft Construction Schedule. What must be ready when?

VI. SiD Collaboration
A. Members
B. Organization
C. Resources FTEs, Engineering, Technicians, etc.

VIII. Special Issues for SiD LOI

A. Proving the Tracking Case
   Full MC proof of fully efficient pat recog in events with full backgrounds
   Thickness of Tracker Structures; Stability of Tracker Structures
B. Adequate Jet Energy Resolution in a Compact Detector
C. Advantages of Si/W ecal
D. What jet energy resolution is needed for the physics.