



Simulation Topics – 0th Draft

- ◆ Studies of barrel tracking performance
 - How many layers?
 - Impact of z segmentation on tracking performance
 - Optimal radii and length of layers
 - Quantify requirements for stand-alone tracking (i.e., few or no VTX hits)
- ◆ Studies of forward tracker design
 - How many layers?
 - Comparison of possible detector shapes (wedge, square, hexagon)
 - Impact of ghost hits for various stereo angles
 - Optimal locations of layers
- ◆ Studies of calorimeter assisted tracking
 - Impact of segmentation
 - Impact of stereo measurements
 - Quantify efficiency and physics performance
 - Would improved hit position precision in calorimeter be useful?



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◆ Tool development

- Further development of track finding codes
- Further development of track fitting codes
- Development of a multi-algorithm driver
- Development of a tracking performance benchmark suite

◆ Infrastructure

- Complete implementation of digitization and geometry packages
- Driver to make tracker hits using new digitization / geometry packages
- Implement tracker hit and new geometry packages in track finding / fitting packages

◆ Ultimate goals

- Integrated set of track finding and fitting algorithms
- Assessment of physics performance from these integrated tools
- Further design optimization as indicated by physics performance