ILC Experimental Hall Cryogenics An Overview

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Introduction

- The hall will contain a number of different systems requiring cryogenic temperatures
- Successful operation of the hall will require that these systems be integrated & coordinated in a logical manner with each other and with other subsystems (e.g. conventional facilities)
- This talk will give a top level overview of these systems and raise questions that need to be answered

Basic Assumptions

- 2 detectors, both with cryogenic components, in a push/pull configuration
- We want to be able to move the detectors while cold
- We want the offline detector to have the option of being cold and powered
- The temperatures of the two detectors as well as their states (cold, warm, cool down or warm up) should be independent regardless of their position in the hall
- QD0 magnets move with the detectors while the QF1 magnets are fixed in the hall

What needs to be Cooled?

Component	Operating Temperatures	Comments
SID Superconducting Solenoid	4.2 K Possible 40-80 K Shield	Detector Moves
GLD Superconducting Solenoid	4.2 K Possible 40-80 K Shield	Detector Moves
IR Final Focus superconducting magnets (QD0, QF1)	2 K Possible 40-80 K Shield	QD0 moves, QF1 Fixed