

FCC-hh Detector Magnet and Detector Integration

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The design of the FCC-hh Experiment and its magnet system is being conducted and in the meantime, a baseline design has been defined. Part of the study is the feasibility of the integration of the detector in its cavern and to develop the requirements on cavern and shaft dimensions. For system integration, the various subsystems in the detector are not independent and the modularity needs to be carefully analyzed. A preliminary proposal for the routing of the various subdetector services and cabling will be presented. This is of paramount importance for developing the maintenance scenarios respecting the limitations in displacement each subdetector element has. Two options for the maintenance scenario will be presented, the first one where access to the inner trackers is provided without breaking the beam pipe, while in the second their replacement has to be envisioned. The cavern dimensions are derived from the maximum envelope taken by the detector during its installation. As for the crane requirements and shaft dimensions, they are mostly determined by the heaviest and largest objects that have to be moved around in the cavern.

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