

SciFi Tracker Progress and Plans

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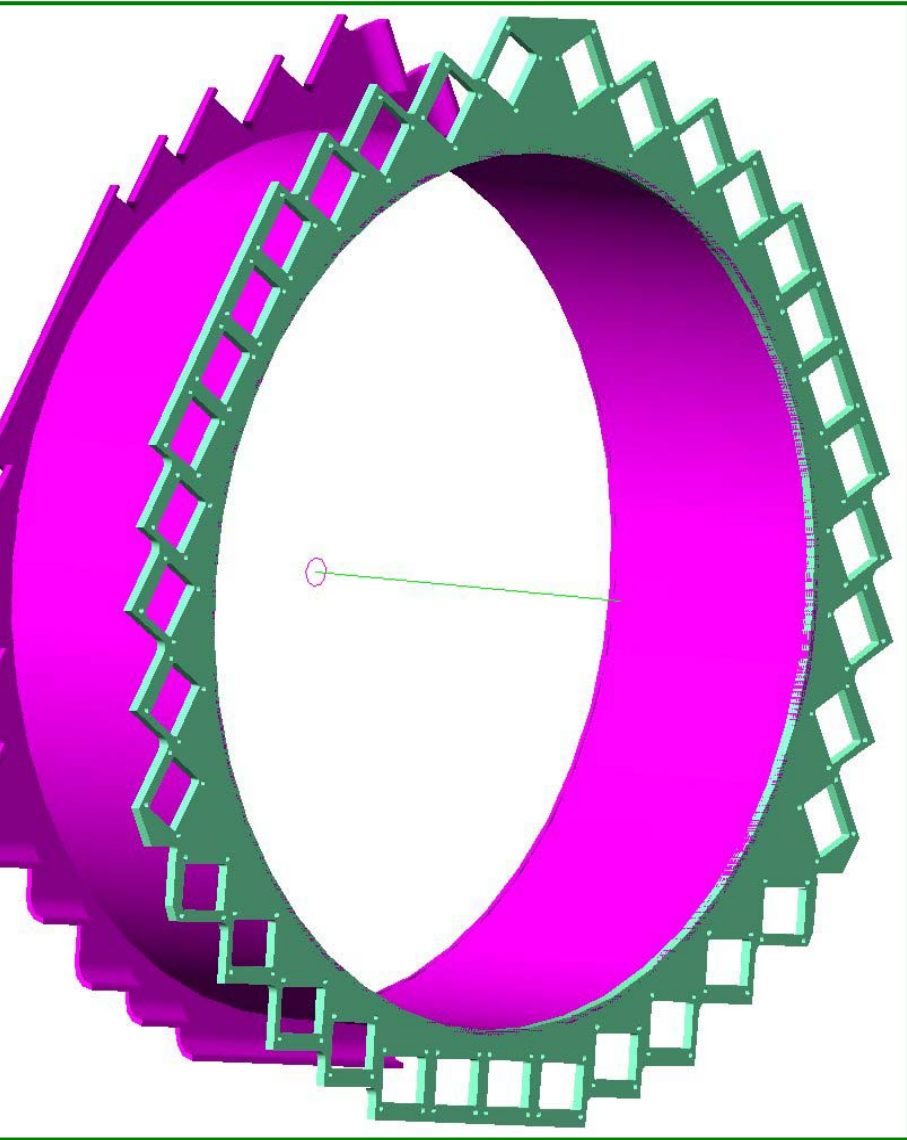
May 20, 2003

Imperial College

Recent Progress

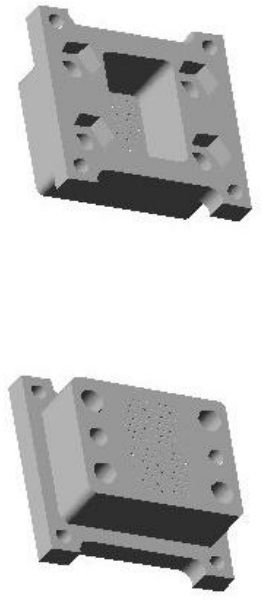
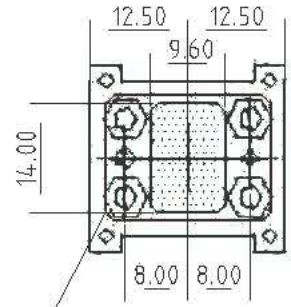
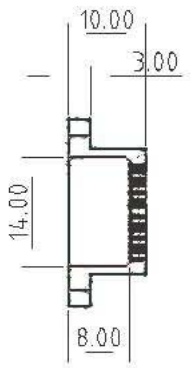
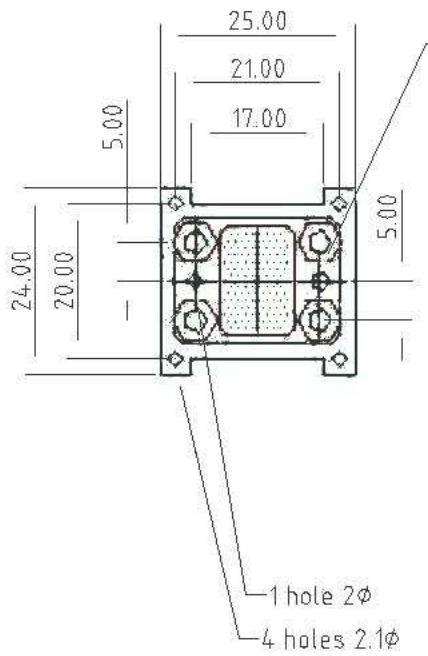
- The station design has been updated
- Several iterations of connector have been designed and prototyped
- Industrial contacts are being made in the UK and US for connector fabrication
- Test beam time has been allocated at KEK
- Time has been allocated at D0 for testing the prototype using VLPC readout
- Scintillating fiber has been ordered

Latest Station Layout



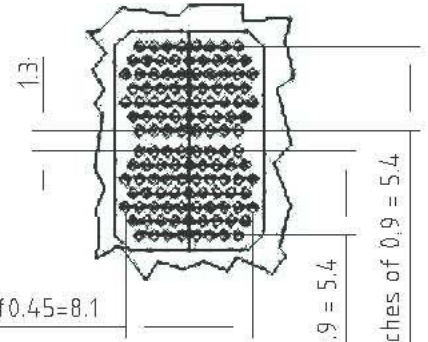
- Accommodates a bend radius of 50x fiber diameter
- Connector mounting matches the connectors we have been prototyping

Non-Multiplexed Connector



4 holes 3.1 ϕ c/bored with a hexagon 5 AF x 2.5 deep

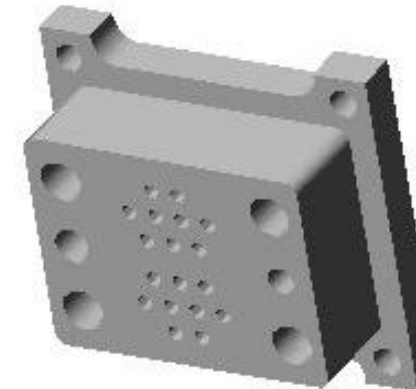
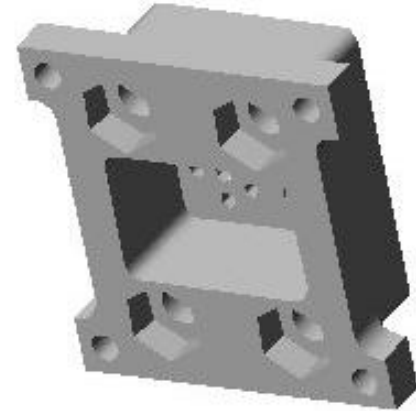
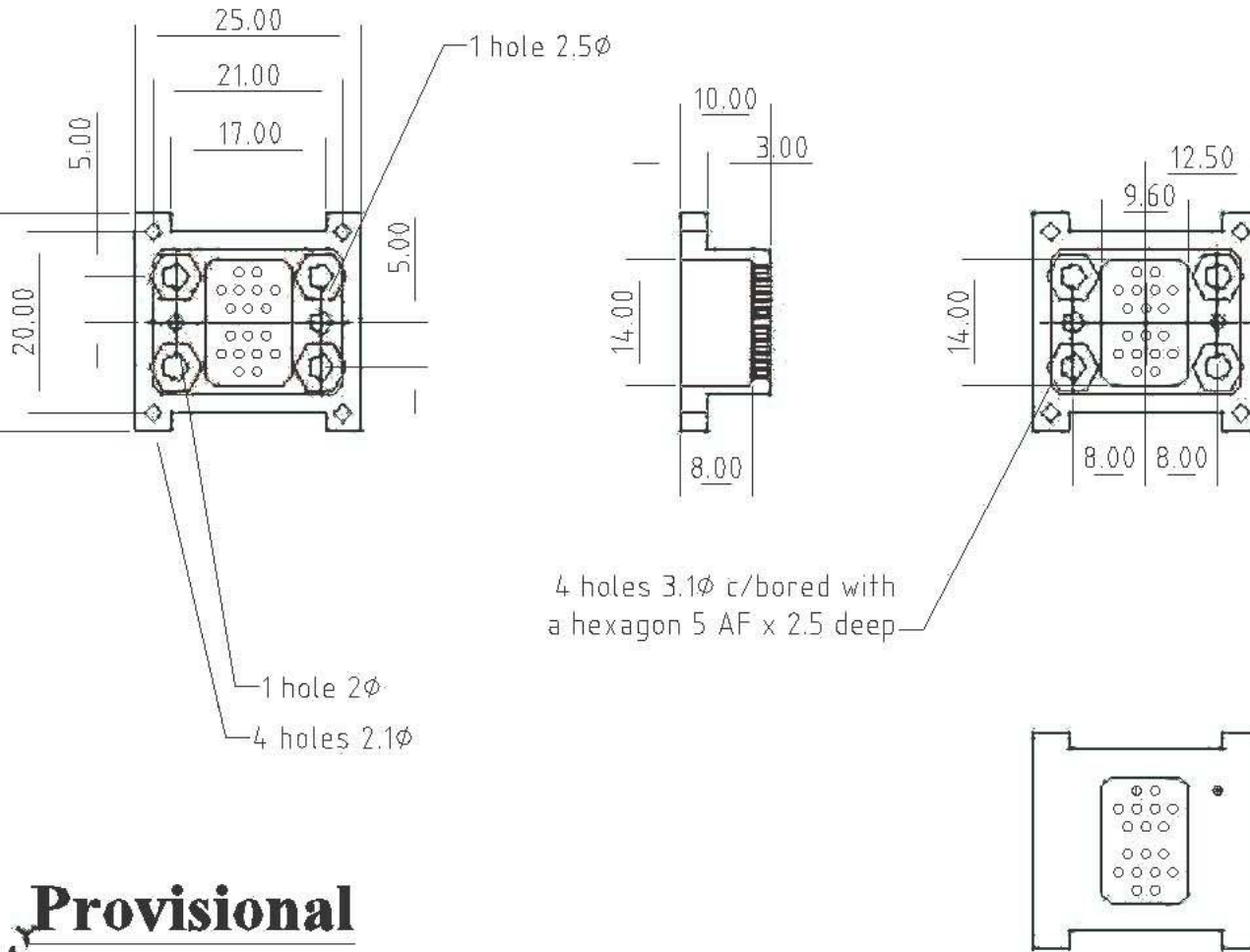
126 holes 0.380 ϕ +/-0.006
csk 0.20 x 0.20



Provisional



Multiplexed Connector



Provisional

Fiber Purchasing

- The Osaka group has ordered scintillating fiber for test beam studies and the prototype, as follows
 - Standard Primary + 2500 ppm 3HF
 - S.P. + 3500 ppm 3HF
 - S.P. + 5000 ppm 3HF
 - 5000 ppm 3HF only
- Diameters of 0.35, 0.7 and 1.0 mm
- Delivery June 7th in Osaka

KEK Test Beam

- The Osaka and KEK groups will build several small prototypes with a variety of scintillating fibers, in order to study various properties of the fibers
- Time has been allocated in July for another test beam, to continue the work of the December test beam

D0 Test Stand Tests

- Time has been allocated in September and October to test a prototype station at Fermilab using the D0 VLPC test stand
- This requires a commitment of at least two people at Fermilab for 1-2 months before the test

Conclusions

- Good progress is being made on the layout of the station and connector prototyping
- Important studies will be done with a variety of fibers in a Test Beam at KEK
- A study of a full station prototype using cosmics at Fermilab should happen at the end of September