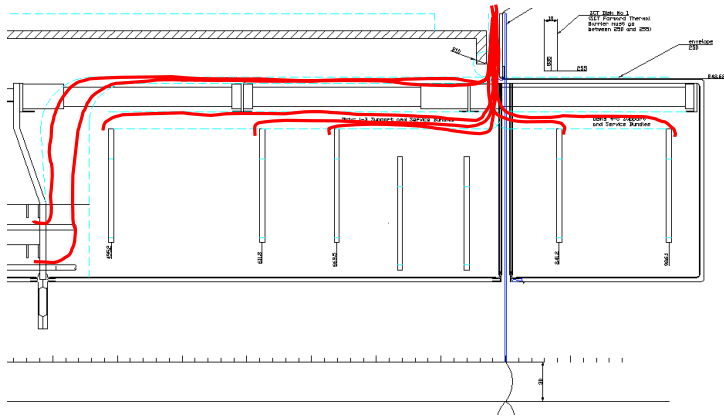
Optical Fiber Length - to PPB1

Internal routing of cables to global supports

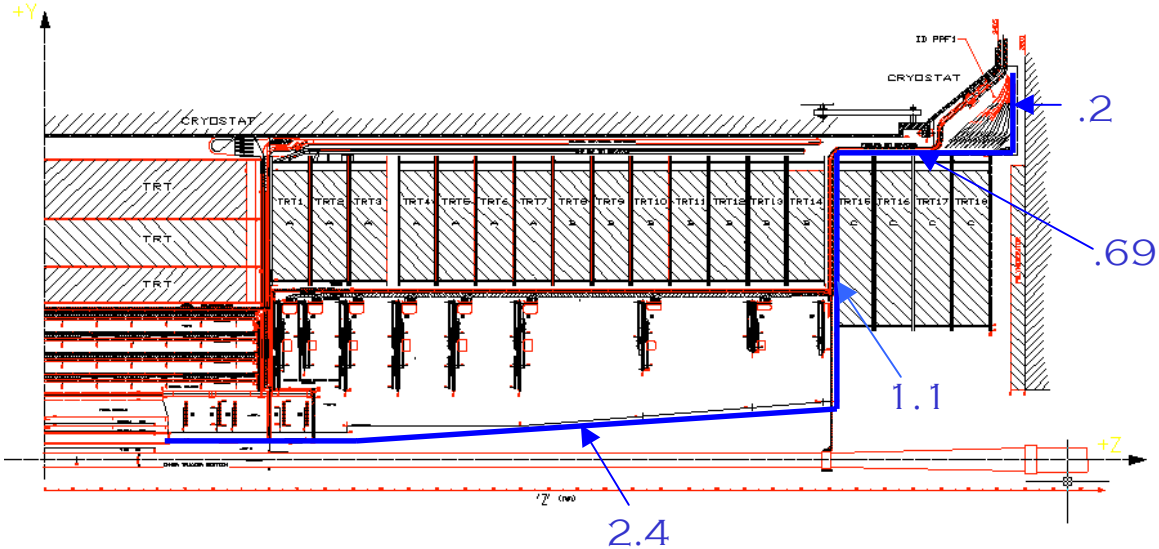
Locations of Interest	Radius	Z-position	Circumf.	Cable Length	Modules Serviced
Barrel Layer 1	10.18	44	63.96	53.32	546
Barrel Layer 2	13.23	44	83.13	50.27	728
Disk 1 +1.5z	22	51	138.23	34.5	144
Disk 2 +1.5z	22	62.7	138.23	22.8	144
Disk 3 +1.5z	22	68.5	138.23	17	144
Disk 4	22	84.1	138.23	4.6	144
Disk 5 -1.5z	22	92.6	138.23	13.1	144
			AVG LENGTH	**39.6**	1994



- **Length of routing within Global support Structure of Pixel Detector - need to add following to above**
  - Distance to PPB1
    - [(115 - 25) + Phi routing(30cm)] X (3-fibers) X (1994 modules)
  - Routing along module support elements
    - 5cm per fiber for each disk module (2 X 5 X 72) X (3-fibers)
    - (40cm/2) X (13 modules per stave) X (98 Staves) X (3-fibers)

Modules to PPB1: 10.42 kilometers

Optical Fiber Length - to PPF 1



0.20
0.69
1.10
+2.40
4.39m

Run from End of B-Layer Stave to PPF 1

- **Above run of 4.39m services 234 modules on B-Layer**
- **Additional Length for run along stave must be added for 18 staves**
  - (40cm/2) X (13 modules per stave) X (18 Staves) X (3-fibers)

Modules to PPF 1: 3.22 kilometers

Fiber Totals for Pixel Detector

- **Modules to PPB1:** **10.42**
- **Modules to PPF1:** **3.22**
- **PPB1 to PPB2 :** **Same as SCT**
- **PPF1 to PPF2 :** **Same as SCT**