

Determination of Vertex Detector Resolution

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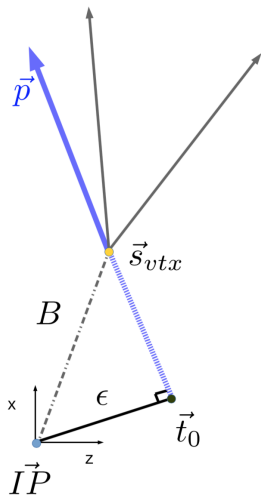
Resolution

Vertex Detector :

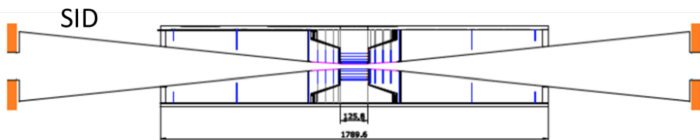
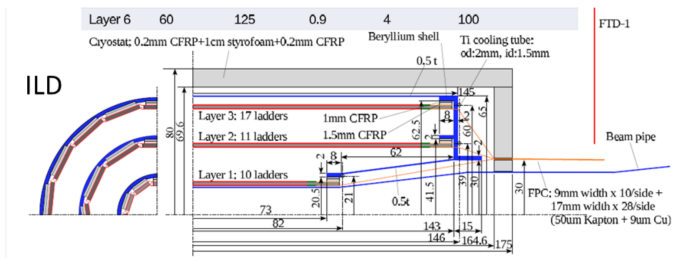
Its role is to precisely measure the IP and SV.

SV and IP determination requires precise impact parameter measurement and this resolution is expected to be

$$\sigma_{ip} = 5 \mu m \oplus \frac{10}{p\beta \sin \theta^{3/2}} \mu m \cdot GeV/c$$



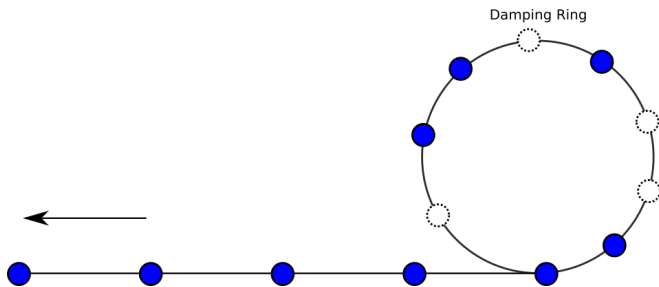
Resolution



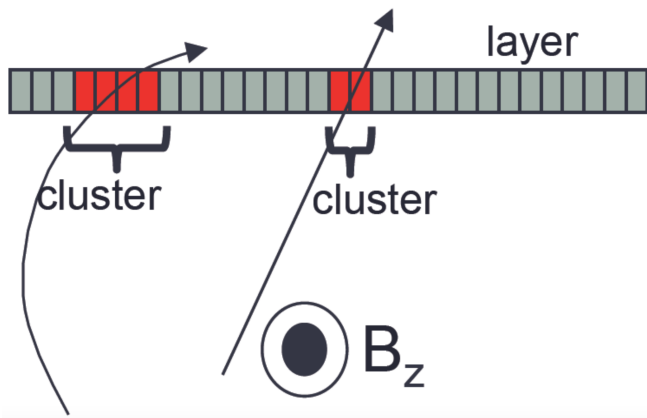
Read Out

Read-out Strategies :

- Read out of innumerous amount of data that is stored in VXD takes place between the bunch trains (~ 199 ms) \rightarrow FPCCD
- Continuously read out as fast as pixels can during the bunch crossings.



FPCCD



FPCCD

Characteristics :

- Size : $5 \times 5 \mu\text{m}^2$
- Reads out during 200 *ms* powering pulse
- Pixel occupancy of the inner most layer: 2.8%

Occupancy

