

LCFI Overview

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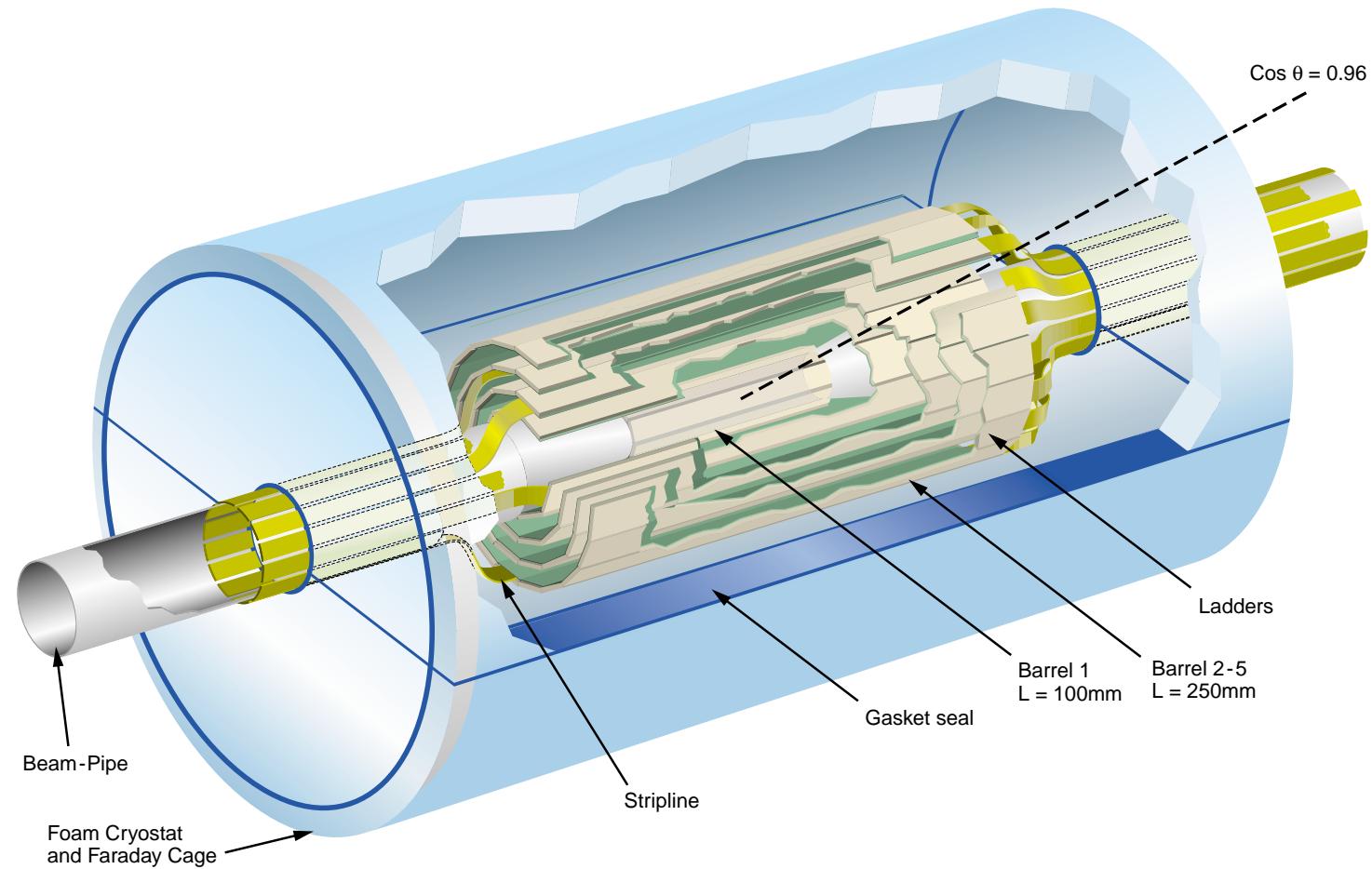
12/2/2001

LCFI

- Bristol, Brunel, Lancaster, Liverpool, Oxford, RAL
- SoI to PPESP: 6/9 /99
- Aim: Tesla vertex detector prototype in 4 years. Estimated cost £3M
- Proposal to PPESP 26/3/2001
- hep.ph.liv.ac.uk/~green/lcfi/home.html

Tesla Vertex Detector

- 5 Layers, 800 Mpixels
- Polar angle coverage up to $|\cos \Theta| < 0.9$
(0.95 for 3 layers)
- 3 Options: CCD, CMOS, Hybrid
- Preferred option is CCD
- See Tesla TDR Ch2.



Activities

- Reducing material in the vertex detector
- Fast read-out for CCD (column parallel for Tesla)
- Physics studies: topological vertexing, B,C tagging.

Material

- Multiple scattering is still dominant factor in resolution: reduce material
- Unsupported silicon: mechanical tests to reproduce position of CCD look promising
- Reduce beampipe and use outer shell of VXD as support structure

Electronics

- For NLC design 50 MHz read-out is required.
- Teslas longer bunch train requires column parallel read out.
- Drive pulses, driver chips, radiation hardness

