


- Vacuum

Considers 2 Rings LEP style (BST)

Vac chamber

- Beam Pipe + Antichambers
- Lumped Absorbers (gas prod. in air)
- 30 kW / 90 m 50 cm wide
- 15 kW 50 m < 20 cm antichamber
- Minimal extra pumping NEG, Ion
- No Balce - "No" bellows
 - Pretaked, welded in situ
 - no changes to arcs during operation
 - Supported by LEP Experience
- Minimal cooling of vacuum chamber
- Impedance of Vac Chamber?

Magnets

- Quadrupoles determine geometry
- B Magnets will be  >30cm sepa
(?)
- Shielding, Strongbacks, were considered
Iron box 50 mkt
- Al conductor 5-10 cm² 1.5 kA
- Low field magnets require demand

Magnet and Vacuum

ITEMS

- 0) Parameters B'_Q, L_Q etc, Ext B field, $r_{\text{pipe}} = 5\text{cm? round?}$
 $P = 10^{-8} \text{ Torr} \sim 1\text{hr}$
 2 Rings \uparrow
- 1) Synch Rad Transmission
 - 2) Shielding, Remanent Fields \Rightarrow Dipole Design
 - Model Magnet (low carbon)
 - 3) Quad Design, spacing
 - 4) Synchrotron Absorber Design
 - 5) Vac Chamber design \Rightarrow Pumping Req
 - Bakeout
 - Bellows / Fingers (LHC) (no bellows)
 - 6) Rad Prot from H. E Xrays
 - 7) Magnet / Vac chamber / Support / Shield
 - 8) Cost - Cost Reduction (common pumps)

People:

ANL

J. N

Teng

Sharma

Jagger

FNAL

(A.T.)

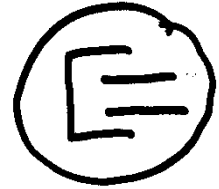
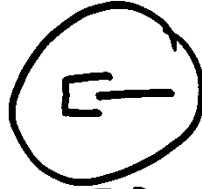
(BWF)

CERN

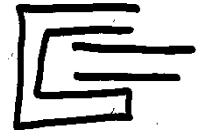
Grothman

Magnet Configuration

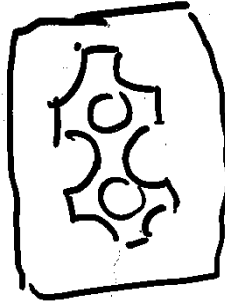
100 G ext field



1/2 G ext field



CEi2N Booster Mag



Pair of 5 by 5 quadr