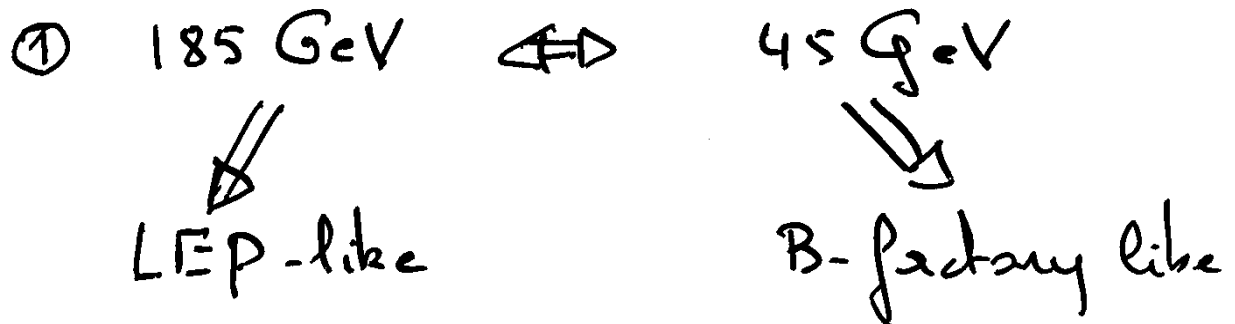


COKE	46 GeV	injE	12 GeV
ρ	1200 m	R	1400 m
C/2 π	2000 m	$\mu/2\pi$	0.25
ξ	0.05	β_x^*	0.8 m
β_y^*	<u>0.04 m</u>	bunchK	80
L	<u>$10^{33} \text{ cm}^{-2} \text{ s}^{-1}$</u>	FRF	400 MHz
T_R	24 h	B	0.128 T
bunchN	2.5×10^{11}	bunch I	0.96 mA
σ_x^*	138 μm	σ_y^*	6.9 μm
I_{beam}	76.4 mA	periodN	224
periodL	39.3 m	$\hat{\beta}_x$	67 m
\hat{D}_x	0.75 m	η	2.63×10^{-4}
T_{pol}	<u>0.31 h</u>	$\hat{\sigma}_x$	1.54 mm
lossU	330 MV	<u>powerSR</u>	<u>25.3 MW/beam</u>
powerSRm	2.9 kW/m	voltRF	421 MV
Q_s	0.056	σ_s	11.2 mm
T_{bb}	9.8 h/IP	vacuumA	0.04 m

Injector



② $E_{inj} : 20 \text{ GeV}$ difficult!
 (Z_{\perp}/m 10x better than LEP)

$E_{inj} : 45 \text{ GeV}$ + combine injector
 with Z_0 Factory.

2 PROPOSALS.

①

6 km

$$L = 10^{33} \rightarrow 5 \cdot 10^{33} \quad (P^* = 10^4)$$

$$V_{RF} = \underline{400 \text{ MV}}$$

$$P_{RF} = \underline{126 \text{ MW}}$$

21 kW/m

$$I_{TMCI} = 0,01 \text{ A/b} \quad (20 \text{ GeV})$$

$$\zeta_p = 0.04 \text{ hours.}$$

$$\frac{\Delta P}{P} = \underline{1.6 \cdot 10^{-3}}$$

Existing Tevatron no good
only tunnel ok.

②

12 km

$$L = 10^{33} \rightarrow 5 \cdot 10^{33}$$

$$V_{RF} = \overset{400}{\cancel{250}} \text{ MV}$$

$$P_{RF} = \overset{50}{\cancel{63}} \text{ MW}$$

$$\overset{5}{\cancel{10}} \text{ kW/m}$$

$$I_{TMCI} = 0.0056 \text{ A/b (At 12 GeV)}$$

$$z_p = 20 \text{ mm}$$

$$\frac{\Delta p}{p} = 1.14 \cdot 10^{-3}$$