

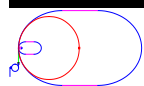
COLLIDER RING :*

- Highest possible bending magnet to maximize No. of turns in the ring before decay

β^*	3 mm
σ_z	3 mm
ϵ_n	$50\pi\text{ mm} - \text{mrad}$
$\delta = \frac{\Delta p}{p}$	0.12%
No. of turns	1000
No. muons	2×10^{12}
No. bunches	2
beam – beam tune shift	0.05

- Isochronous lattice
- IP Local Chromatic Correction is essential

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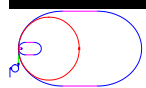


$\mu^+ \mu^-$ COLLIDER

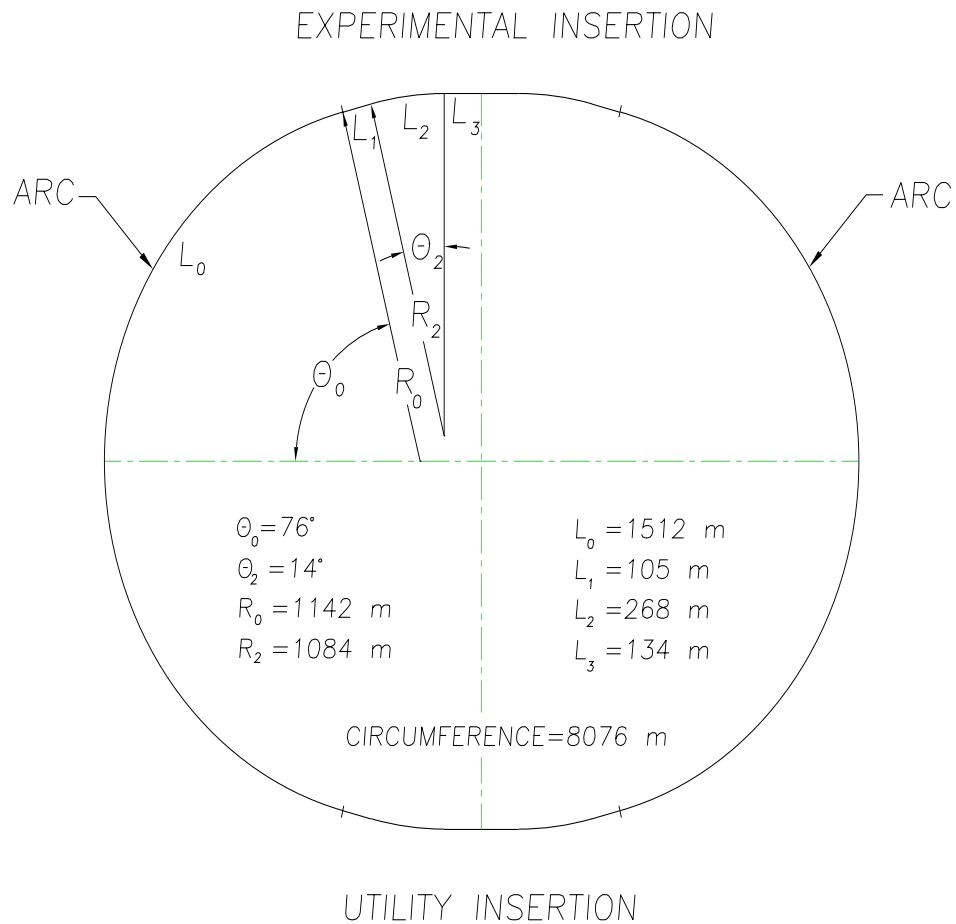
- Resistive wall impedance instability \rightarrow *BNS damping* with rf quadrupoles is a possible solution
- Momentum compaction, $\alpha \approx 10^{-6}$

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$\mu^+ \mu^-$ COLLIDER



The complete collider ring layout (Garren)

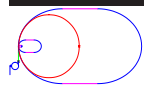
- There are two lattices designed by A. Garren and Oide, neither is totally complete
- Oide's has shown a dramatic increase of the dynamical aperture (100 turns) by including

octupoles and decapoles in the chromatic correction section

- At Snowmass a new lattice was designed simpler and equally good properties (C. Johnstone and A. Garren)

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$\mu^+ \mu^-$ COLLIDER