

# CONCLUSIONS :\*

- ADVANTAGES

1. Reduced synchr. rad. → ring  $10^3$  turns
2. Full energy projectile available for new particles production
3. Both beams partially polariz. (lower  $\mathcal{L}$ )
4. Fairly compact (see Fig.). Multipurpose: intense  $\pi$ , K,  $\nu$ ,  $\mu$ . Possibility of  $\mu p$  collisions. Physics of rare K and  $\mu$  decays.
5. Start with 0.5 TeV and progress to 2 TeV over time

- DIFFICULTIES

\*

---



$\mu^+ \mu^-$  COLLIDER

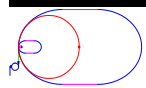
1. making sufficient  $\mu$ 's cooling, accelerate and collide them before DECAY
2. Problem decay products (magnet heating) and detector (background)

- TECHNICAL DEVELOPMENTS

1. Demonstrate working cooling system without losses
2. target high field solenoid
3. low frequency linacs for phase rotation and cooling
4. accelerator magnets, shielding and SC rf cavities
5. Quads at IP

A great deal of progress has been accomplished;  
however, many questions remain (you may  
have many more) that require theoretical  
study as well as R&D on hardware†

†



$\mu^+ \mu^-$  COLLIDER

