

Open emittance exchange lattice

Advantages over ring

- no injection/extraction problems
- tapering parameters possible

Prejudice: want rf cavities in dispersion-free regions

Existing possibilities

- Balbekov ring
- Garren ring
- C. Wang lattice (2000)

Why choose Balbekov ring?

- $p \sim 226 \text{ MeV}/c$ similar to NF S-FOFO lattice
- $f = 201 \text{ MHz}$
- design already tested with the Balbacode and Geant

Study plan (for next 2 weeks?)

Reproduce Balbekov ring results

hard-edged magnets

goal: make as simple model as possible that shows exchange works

(not exact reproduction of Geant model)

get geometry & fields from paper and Geant files

prepare correlated initial beam

not-uniform dipole field ?

delta function p_T kicks at ends of solenoids

soft-edged magnets

$\Delta \tanh(s)$ functions & neighbor fields ?

BSOL (model 3) tabular on-axis fields ? (high priority ?)

input magnet maps ?

Open up the ring

include rf and absorber windows

tapered parameters for optimal performance