

# *Ring Coolers/Emittance Exchange Structure and Manpower*

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- Sub-group activities:-
  - » Ring Coolers
    - Palmer Ring
    - UCLA Ring
    - Balbekov Ring
  - » Ring Coolers – global issues
    - Injection/Extraction
    - Kicker design
    - Rings vs Snakes vs spirals
  - » Quadrupole Linear channel
  - » Muon Collider Conceptual design
    - Have a design on paper to go from collection to collision
    - Lithium lens ring coolers?
  - » Neutrino factory-Optimize Study II to include emittance exchange.
- Collection of muons:-
  - » Neuffer buncher

## *Ring Coolers- Palmer ring*

- Workers- Palmer(10%), Fernow(10%)
- Worklist- Take initial LBL workshop design and simulate in ICOOL with realistic fields. Evaluate performance. Needs help.

# *Ring Coolers- UCLA ring*

- Workers- Garren(50%), Kirk(20%), Fukui(60%),He(?)
- Worklist-
  - » Optimize cooling Energy, Minimize losses
  - » Optimize ring design
  - » Design Injection/Extraction

# *Ring Coolers-Balbekov Ring*

- Workers-  
Balbekov(50%), Usubov(100%),  
Kahn(30%), Raja(30%)
- Worklist- Show Geant Model gives same result as Balbekov simulation
- Show results invariant with realistic fields
- Solve Injection Extraction.

# *Ring Coolers- Global Issues*

Injection/Extraction (no one)

Kicker design (Palmer(10%), Summers(10%))

Rings vs Snakes vs spirals(no one)

# *Quadrupole Linear Channel*

- Workers- Johnstone(40%), Makino(70%), Berz(20%), Errede(20%)
- Worklist- Design Quadrupole cooling channel- Show it cools and that it may be useful for early cooling stage.

# *Muon Collider Conceptual design*

- We would like to show conceptually that the muon collider may be feasible by simulating collection and cooling using ring cooler ideas.
- Workers- No one
- Simulate Collection, Cooling, Rings.
- Get to grips with Lithium lens final stage

# *Optimize Neutrino factory Design by adding emittance exchange*

- It would be good to work this problem through seriously by adding emittance exchange (either via snakes/spirals or if injection is solvable using rings) to see how much gain results in neutrino factory design/ costs.
- Workers- No one

## *Collection of muons*

- Dave Neuffer has worked through a new scheme to collect muons (phase rotate and bunch) that avoids induction linacs.
- Does this scheme save money?
- Can it be used for neutrino factories?
- Workers- Neuffer(50%), Elvira (40%)