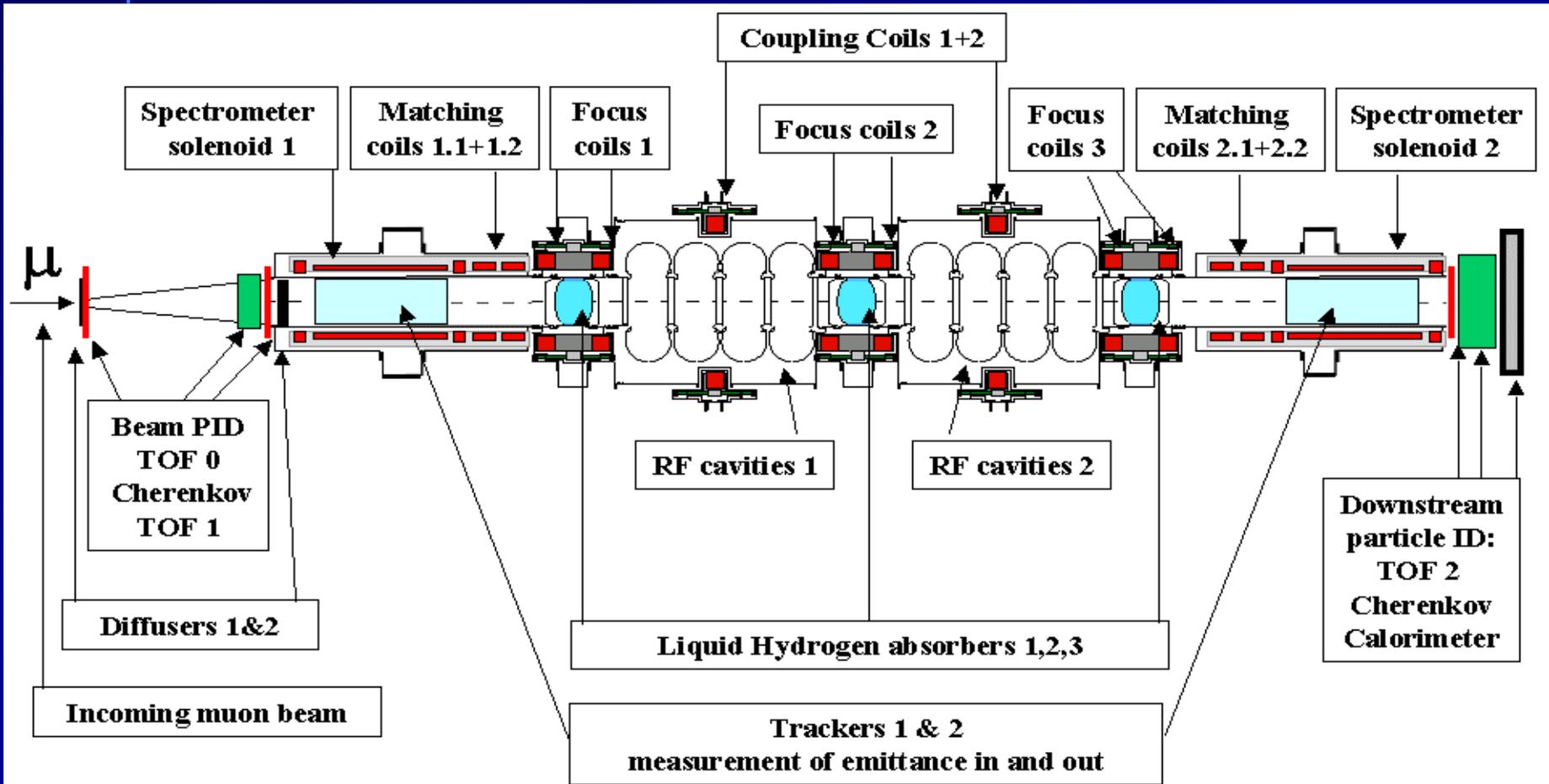


# MICE Detectors



Malcolm Ellis  
MUCOOL Meeting  
19th November 2004

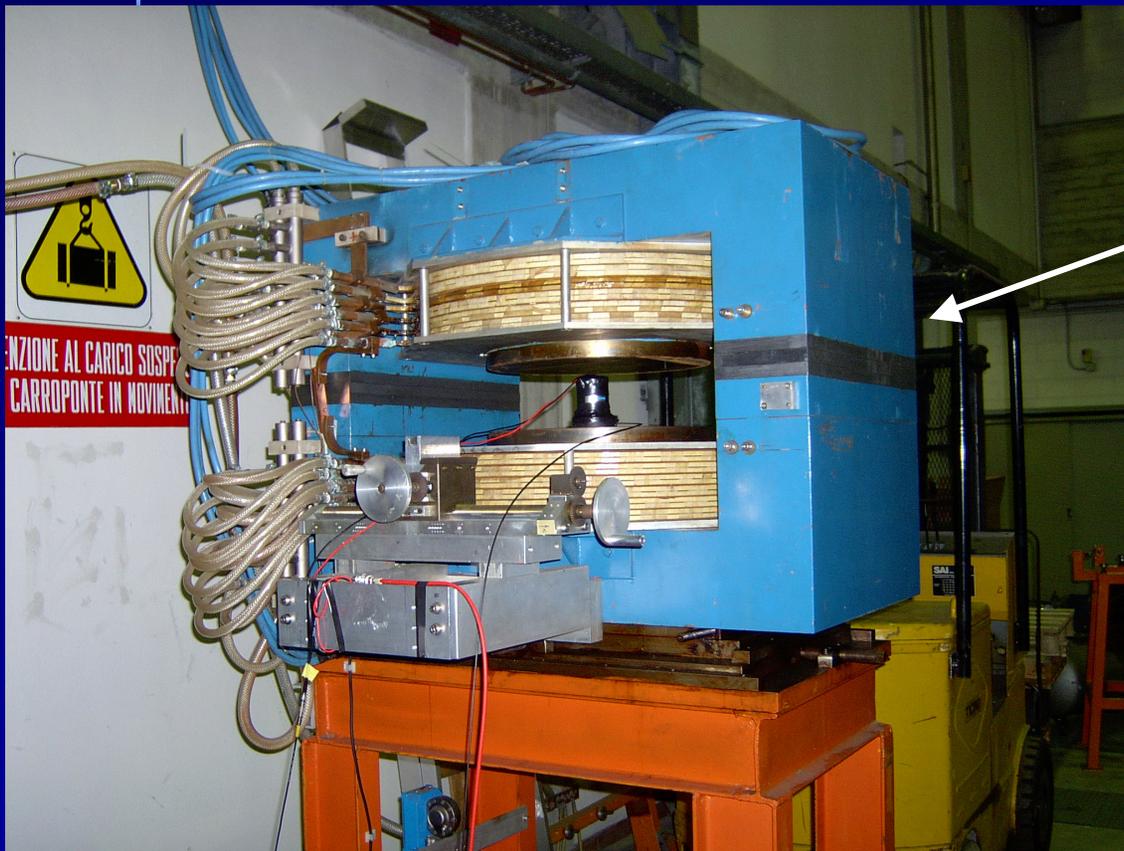
# PID and Tracking



# TOF Status

- Status presented by M. Bonesini at Collaboration meeting in October.
- Detectors must cope with:
  - High rate (3 MHz)
  - Non uniform magnetic fields
- Testing underway to chose:
  - Scintillator thickness
  - PMTs

# Test magnet at LASA



PMT under test

1. B field up to 1.2 T
2. Free space 12 cm in height

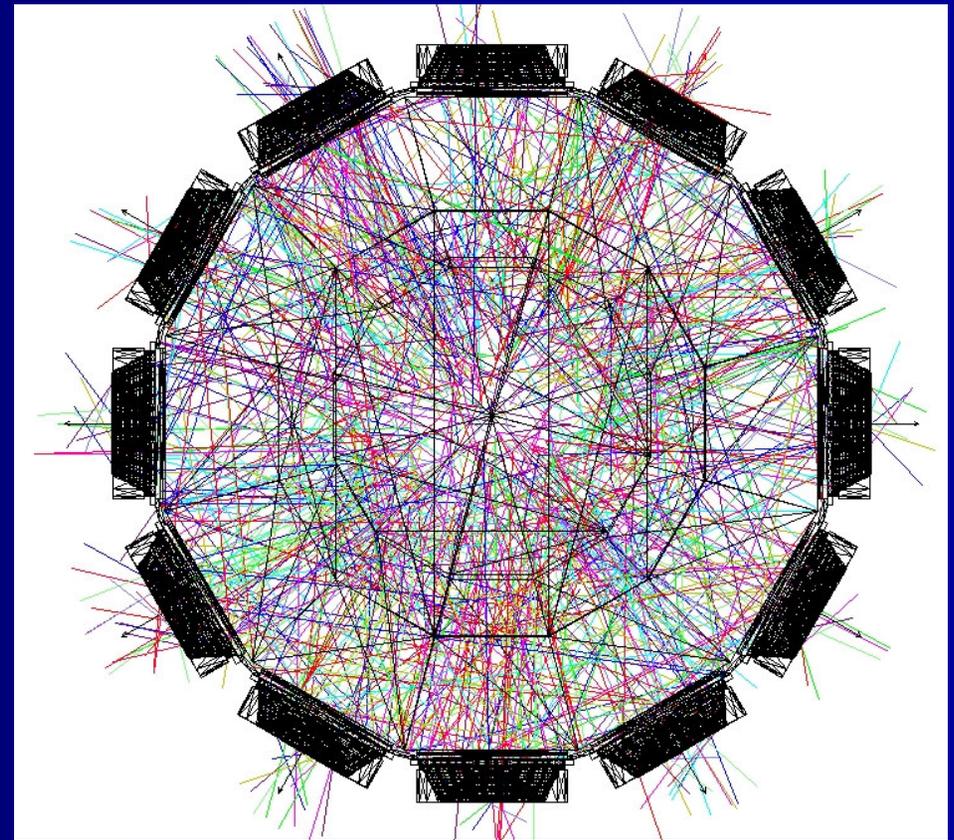
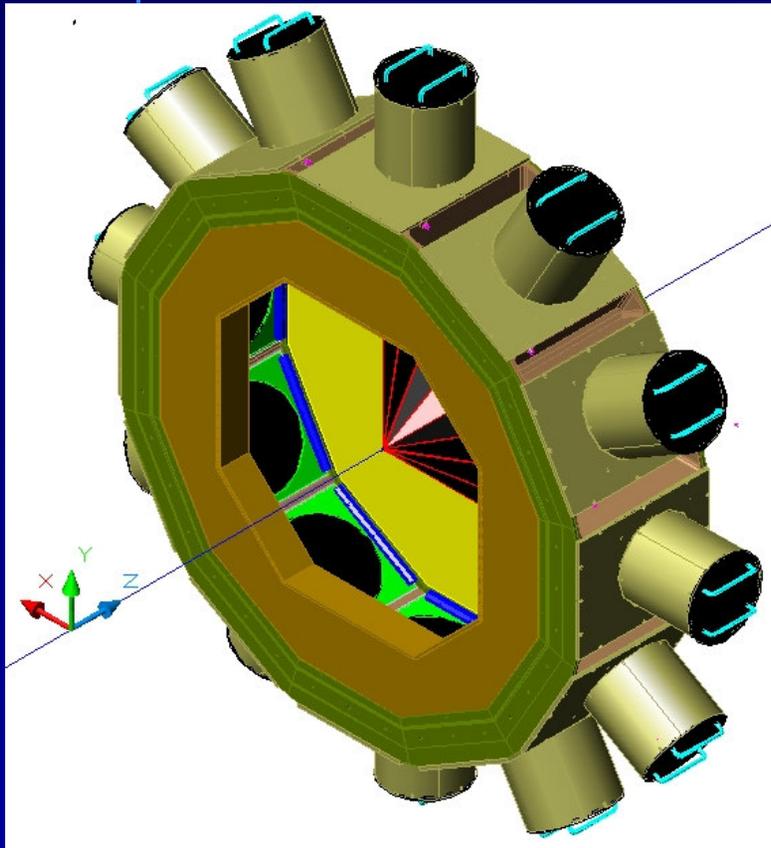
Measurements include:

- Gain in B Field
- Rate effects
- Pulse height resolution
- Timing studies

# CKOV Status

- Status presented by G. Gregoire at Collaboration meeting in October
- Threshold Cherenkov detector:
  - Aerogel radiator
  - 12 PMT/Winston cone combinations collect light
- Particle distributions from G4BeamLine used to check physical constraints and determine light collection efficiency

# 3D View & Light Collection



# Calorimeter Status

- Calorimeter status presented at Osaka meeting.
- $e/\mu$  separation algorithm presented by S. Kahn at Collaboration meeting in October

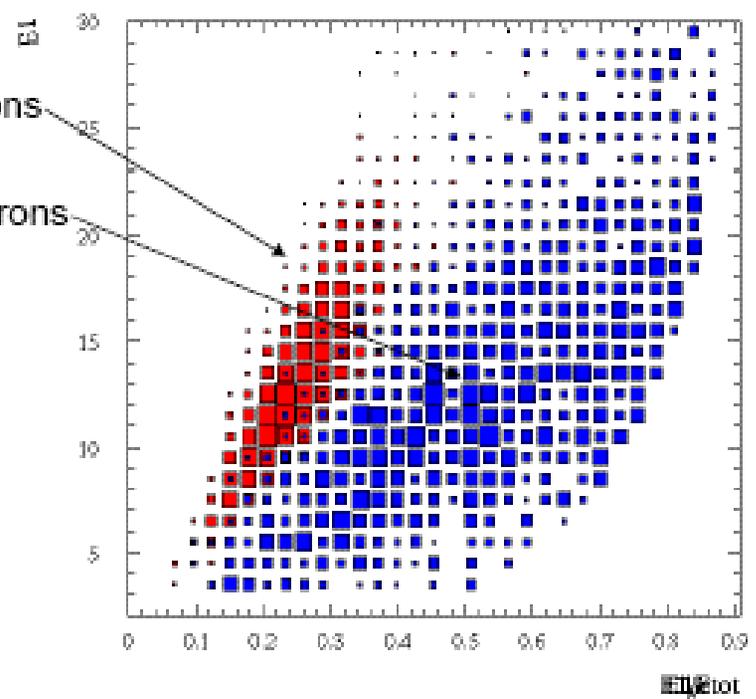
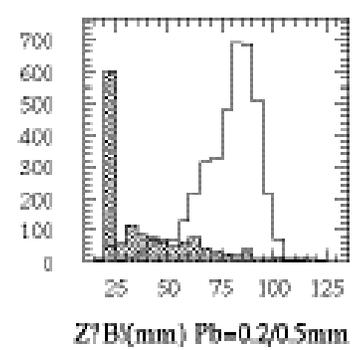
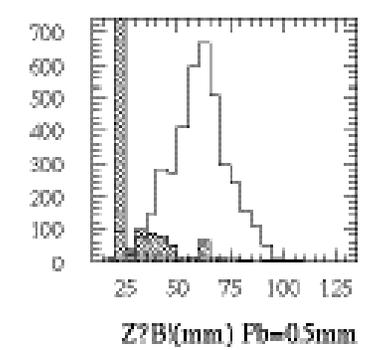
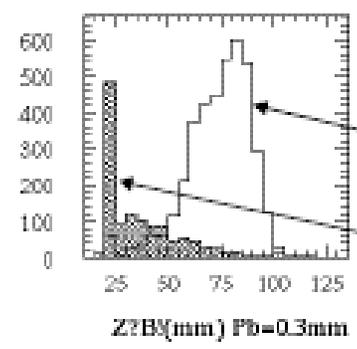
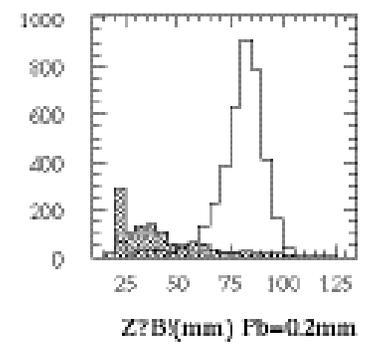
# e/ $\mu$ separation algorithm

Apply cuts on

Baricenter coordinate

and

E1 vs E1/Etot

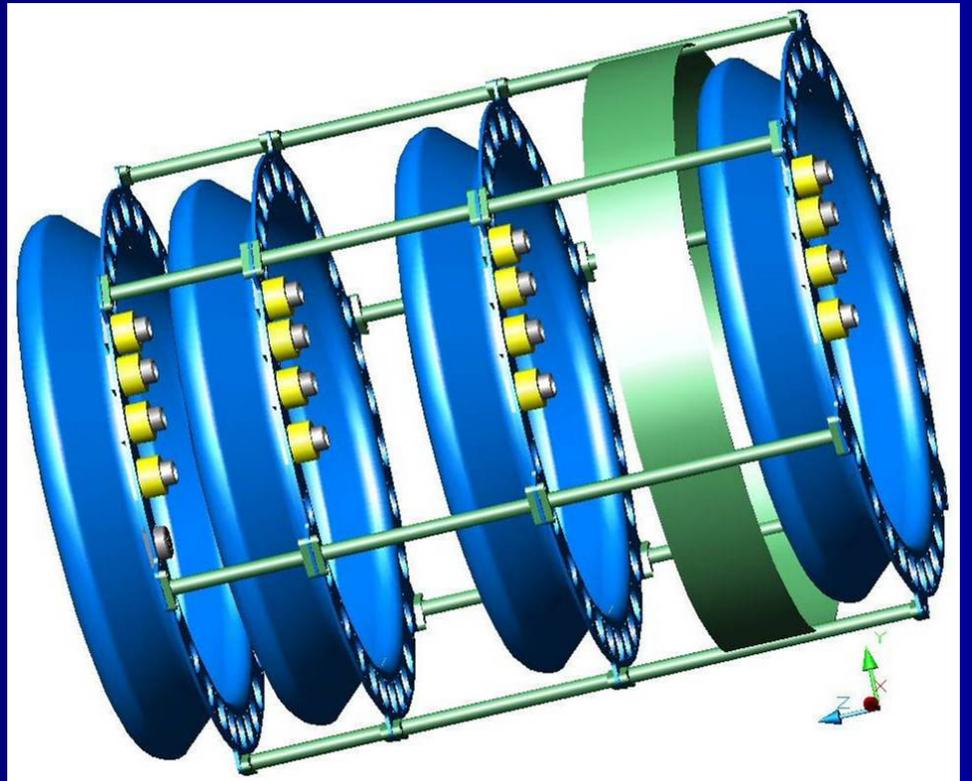
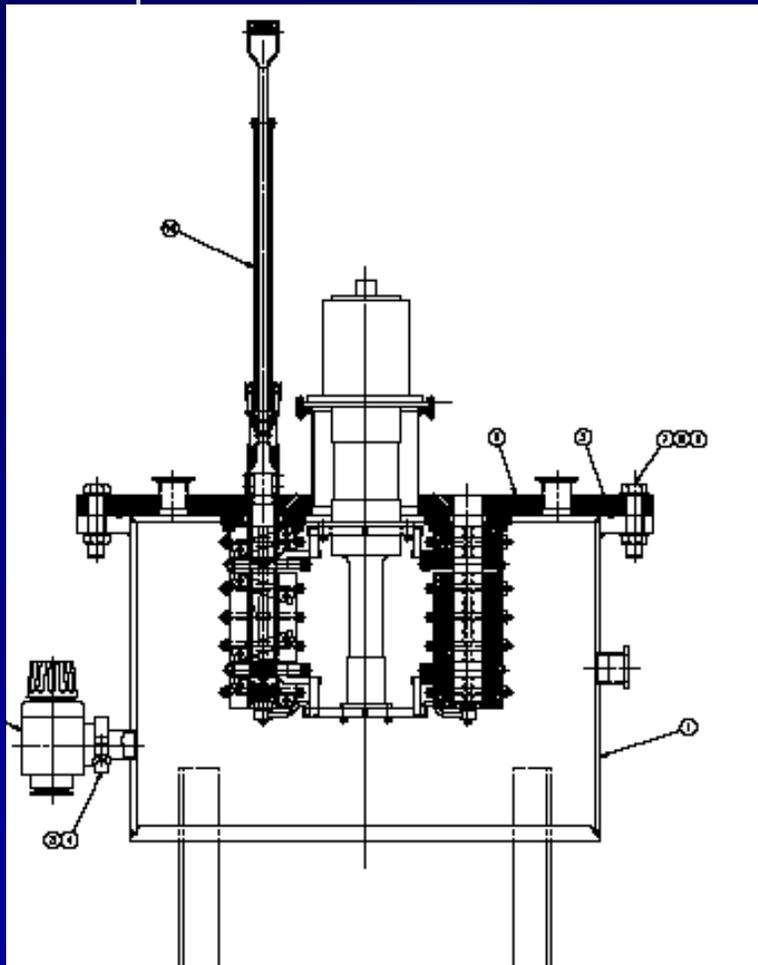


$$Z_B = \frac{\sum_{i=1}^{N_{layers}} Z_i \times PH_i}{\sum_{i=1}^{N_{layers}} PH_i}$$

# Tracker

- A great deal of progress has been made since Osaka.
- The “9 questions” have basically been answered - need to demonstrate  $\sigma P_z$  and emittance resolution at  $2.5 \pi$  mm rad.
- Work now towards test of a 4 station prototype in KEK next year.

# KEK Test



# KEK Test

- Hope to make two runs of one week each.
- Use a 1T solenoid magnet
- Reuse 3 stations from D0 test and add a 4<sup>th</sup> which is currently being built in London
- Operate VLPCs with cryocoolers outside of Fermilab
- Still a lot of work to do...