There was only one presentation. T. Roberts covered

1) Rates at TOF0. Tom and Kevin have been investigating ways to reduce them and came to the conclusion that the choice of a higher pion momentum (around 425 MeV/c rather than 350 Mev/c) brings a drastic reduction of pions hitting TOF0 (10% of the mu's by now) while increasing good (tof0*tofI*tofII) muons. Residual pion are hitting now Tof0 close to an egde, further optimization may well remove them for good. Rates on the surface of Tof0 are now mostly muons and are in the 6 MHz range. See slide 3 or 4. In order to reduce that further, Tom anticipated that he and Kevin are considering proposing that
   a) TOF 0 and I both move one quad downstream, keeping their separation
   b) an upstream magnetic shield, mirror image of the one downstream, is restored into the design, to protect TOFI PMT's, to prevent saturation in Q9 etc etc
To be resumed with both of them on Wed July 21

2) Downstream profile of good muons. These were obtained with a 6 pi mm rad emittance, as large as we may possibly have it. This are the blue profiles in
Slide 7, indicating that 1/2000 good muons hit the downstream shield (and not fly thru its 50 cm diameter.
Slides 8 and 9, suggesting a 60 cm side for ToFII
Slides 10 and 11, suggesting a 75 cm side for CKOVII
Slides 12 and 13, suggesting a 120 cm side for the MUCAL
These should now be commented upon by individual detector experts. Tom will rerun the simulation now adding the absorbers. A study of the performance of TOFII-TOFI for electron rejection is under way.

The preparation of our contribution in Osaka was discussed then. Our plans for our next meetings were updated. *Any further suggestions and input in that direction is welcome.*
M. A. Cummings described her request to each PID detectors team. They should each provide her with the list of "control data" that will be available from their detector and will be read in along with the muon track data. This list should include all the necessary quantities that must be kept under control so to keep the contributions of each PID detector to $\Delta(\varepsilon_{\text{out}}/\varepsilon_{\text{in}})$ below the few $10^{-4}$ level. All detectors (TOF’s, MUCAL, CKOV, CKOV II) will contribute uncertainty in the selection of the good mu sample. The TOF’s and possibly MUCAL will also contribute uncertainty to the measurement of the emittance. Responsibility for determining the corresponding tolerances will be within the various detector groups, in collaboration with the simulation group.

G. Gregoire provided a preliminary list of control data for CKOV II

E. Radicioni discussed the limitation to MICE DAQ rates expected to the largest extent from TDCs running in deadtimeless mode. Buffers get full and subsequent hits go unrecorded. Rates up to 1 MHZ should be feasible but tests are necessary in order to establish that and consequently the MICE baseline DAQ rate.

M. Bonesini discussed the possible increase of tolerable TOF rates at lower PMT voltages. Studies in magnetic field are planned in July at LASA in Milano. We discussed current suggestions to reduce the thickness of TOF counters, so to reduce the loss of muon rate from multiple scattering. After the meeting, Maurizio showed evidence of a rather steep dependence of timing resolution on thickness. These measurements are however not made in conditions sufficiently similar to ours. Maurizio will collect more information.
T. Roberts discussed the reduction of good muon rates from TOF0 & TOFI and opened the discussion on possible remedies.

The discussion touched upon the fate of the upstream magnetic shield. That is not part of the TRD baseline. But K. Tilley warns us that that may still be an option.

P. Fabbricatore showed that a 20 cm downstream displacement of the downstream magnetic shield is highly desirable. The study of that in a larger variety of MICE configurations is his next goal.

G. Gregoire showed that this appears acceptable for detectors and that a thinner Iron slab (10 cm or less) may suffice.

This may well soon become our new baseline.

Ghislain also presented an updated CKOV II design, with a reassuringly larger transverse aperture.

Tom showed that little or no loss of good muons seems to follow from the revised downstream mag shield.

His GEANT4 tool appears very useful for current design work and we will soon hear more results from him.