

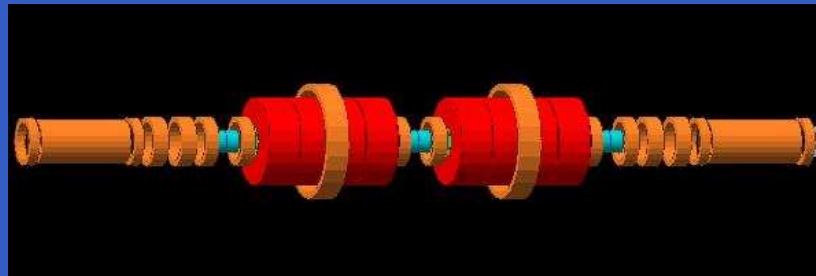
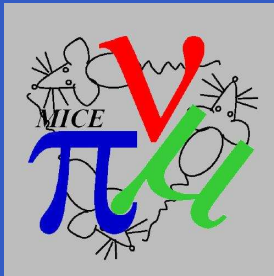
# SOFTWARE PROJECT STATUS

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MICE Collaboration Meeting

November 2, 2003 - Abingdon



# Reminder

MICE involves

- unprecedented precision in emittance measurement
- both accelerator components and HEP detectors
- complex and subtle analysis issues

Doing all this consistently and correctly requires unified software framework for Monte Carlo simulation, data processing and physics analysis

# History

- First software workshop August 2002
- Partial detector geometry, digitization, reconstruction and tracking in cooling channel in time for RAL proposal
- Second workshop April 2003
- Updated or rewrote code for several detectors following baseline changes
- 11 releases to date
- Third workshop next week at Imperial College

# Organization

- Have about 20 people involved from UK, US, Switzerland, Italy (working on Japan) ranging from undergraduate students to senior scientists
- Communication through website, mice-software list (but mostly private email)
- Biweekly phone conferences
- ActionItem/ToDo list on the web for all to see
- Workshops when appropriate

# Progress (since last coll mtg)

- Updated TOF123 simulation and digitization, implemented reconstruction (S. Kahn)
- Replaced Ckov1 simulation, digitization (R. Godang)
- Updated SciFi simulation, digitization and reconstruction, redid performance studies (M. Ellis, A. Tapper, L. Tong)
- Replaced TPG simulation and digitization (R. Sandstrom, E. Gschwendtner)

# Progress

- Replaced EMCal simulation and digitization, updated performance studies (A. Tonazzo)
- Replaced Ckov2 simulation, digitization (S. Kahn)
- Wrote SpecialVirtual detectors and performed energy deposition analysis (S. Kahn)
- Wrote new analysis tool, studied track distributions (H. Wilson)

# Progress

- Updated documentation (R. Godang, P. Gruber, S. Kahn, R. Sandstrom, A. Tapper, A. Tonazzo)
- Fixed many bugs, cleaned up and updated code to modern C++
- Implemented bug database
- GRID interface in testing (K. Georgiou, A. Tapper)

# Progress

G4MICE work reported at this meeting

- SciFi Simulation Studies (M. Ellis)
- TPG Digitization (R. Sandstrom)
- Heat Deposition in Absorbers and Coils (S. Kahn)
- Calorimeter Optimization (A. Tonazzo)

# Status

- Implemented essentially complete magnetic lattice, detector geometry and response, rf background and reconstruction
- Working on detector optimization, background sensitivity
- Continuing physics analysis
- Updating documentation
- Have many more users, getting useful results
- Come to Imperial College tomorrow and join the fun!