Activities of *TWIST* Beam Study Group

Documentation can be found on the Beams Study Group Bulletin Board at
http://stoney.phys.ualberta.ca/ e614/Projects/E614-S2/.

M13 development:

- proton beam stability tests (T. Porcelli)
- graphite target fabrication
- magnet current monitoring
  - provision of DC current transformers
  - multiplexing DVM for monitoring
  - initial stability tests
- magnet field monitoring

Beam studies

- development of new tune (J. Doornbos)
- surface muon production and transport simulations (T. Porcelli)
- proposal for beam measurements in 2000 (discussion tomorrow)

Graphite target fabrication

- graphite targets (10 mm) were at one time used routinely at T1, with beam currents $\sim 120\mu$A
- recent graphite targets used at TRIUMF have suffered premature and intolerable failures
- suspicion is that different method of heating (RF induction oven vs conventional oven) used to bind graphite to its mount is responsible
- original oven has been restored, needs new power supply
- tests have been carried out, new targets should be made within weeks with borrowed power supply

Magnet current monitoring

- DC current transformers to be installed on all M13 power supplies
- stability at low (surface muon momentum) magnet currents remains to be established and tested
- multiplexing DVM system has been tested and obtained, to be part of *TWIST* slow monitoring system (P. Green)
- initial DVM tests were also stability tests, giving preliminary (unoptimized) measures of stability: see http://stoney.phys.ualberta.ca/ e614/Projects/ E614-S2/00009/index.html

Magnetic field monitoring (Hall probes on quadupoles) will not be installed until 2001, so that substantial testing can take place before any radiation damage occurs.