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In last years Annual Report, we gave a brief overview of the physics goals for TRIUMF E614 along with a description of the setup of the experiment. We also noted that E614 had received full funding for capital equipment from both DOE in the US and NSERC in Canada. Over the last year, most of the effort on the experiment has been centered on detector fabrication and continued Monte Carlo simulations to check a number of possible systematic effects. Below we provide a very brief update of the progress which has been made on the project over the past year.

Following notification of full funding, TRIUMF began negotiations with CRYOMAG to purchase a superconducting magnet (formerly used for MRI) to house the detector. The magnet was delivered to TRIUMF in September, 1998. Prior to shipping, it was tested at full field. It was shipped cold and retested at low field once it arrived. Work at TRIUMF has progressed on designing the iron return yoke that will surround the magnet and making final checks to determine the best beam line for the experiment. Muon depolarization through the fringe field of the magnet and uniformity of the field volume over the detector are the two primary considerations that dictate the geometry of the yoke.

Preparations for wiring and assembling the detector chambers are nearly complete. One wiring table has been fully instrumented and a second is being constructed. Parts are being procured to build and fully instrument a prototype x-y drift chamber pair. The schedule calls for the completing the prototype construction by the end of June, 1999 with bench testing and beam testing to follow during the summer. If no major

modifications in design are dictated by the prototype tests, full wire chamber construction will begin by the end of the summer (1999). We expect to complete construction of at least 1/2 of the wire chambers by the end of spring 2000 and assemble them in the magnet for testing.

During the past year, several decisions on electronics have been made. The collaboration has chosen to adopt the VTX preamplifiers which have been used most recently on the vertex detector wire chambers for CDF at Fermilab. The central CDF chambers are scheduled to be removed from the magnet beginning in late April, 1999 as part of their detector upgrade. At that time we will be able to remove the preamplifiers from the CDF wire chambers and ship them to TRIUMF. Work is progressing on the design of the post-amplifier/discriminator module. Several new modules are scheduled to be completed by early summer so that they can be used for testing the prototype chamber. Also a decision was made this year to purchase LeCroy model 1877s multi-hit TDC's for our wire chamber readout. Since the 1877s module does not have a backplane TTL readout for triggering on wire chambers, we will need to send the TDC ECL signals to parallel discriminator modules to provide trigger inputs. The TDC's will be converted to ADC's for readout of the central proportional chambers using a chip available from LeCroy. Charge readout on these detectors will allow us to better understand the muon stopping distribution in the target.

Our effort at TAMU this past year has centered on electronics and software. We have carried out the negotiations with Fermilab to obtain the VTX preamplifiers. Also we have been

working with the Thomas Jefferson National Laboratory to purchase the LeCroy TDC's. The TDC's will be purchased by Jlab and then loaned to E614 for the lifetime of the experiment. Once E614 is completed, the TDC's will be returned to Jlab for use there. Also we have been working with the TRIUMF and Russian groups to finalize the design of the post amplifier/discriminator module.

Our primary software task is to develop pattern recognition algorithms to identify chamber hits associated with decay positrons. Monte Carlo simulation, detector analysis and visualization packages are being installed on our computers so that we can begin working on this project. We hope to have a fully functional analysis program in place prior to the beam tests that are planned in 2000 for one half of the detector.