Beam sent to MIPP

Rajendran Raja
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This morning, Chuck Brown, Craig Moore and I were in the Main Control Room to turn on slow spill and the MIPP primary and secondary beamlines. To test the extraction, a single fast spill pulse was extracted from the main injector to dump. The slow spill conditions were then dialed in and the beam extracted reliably out of the machine with little loss.

The septa in the switchyard were set to send the beam to M-Center with M-test switched off. We turned on the MIPP secondary beam to transport 40 GeV positives to the experiment. We soon found out that the SWICS in the beamline were not reading out reliably. To blame were MC2WC (X and Y), MC5WC(Y only), MC7WC1 and MC7WC2. We also found that the scalers fed to ACNET from MIPP (T00,T01 + Cosmic paddles) were not being reset properly. With the help of Brian Kramper (who came in specially), we made a controlled access to MIPP and installed a reset cable to the scalers. At this point, T01 and Cosmic paddles began registering hits in time with the spill. The T00 counter was reading zero. This is early days yet, but by the time I left, we were registering ~1000 particles in MIPP per slow spill. This is enough to tune. The beam chambers and the TPC are still not in the DAQ. Chambers 1-4 and perhaps Chambers 5,6 should have been reading out., as well as the RICH.

I enclose a few plots.

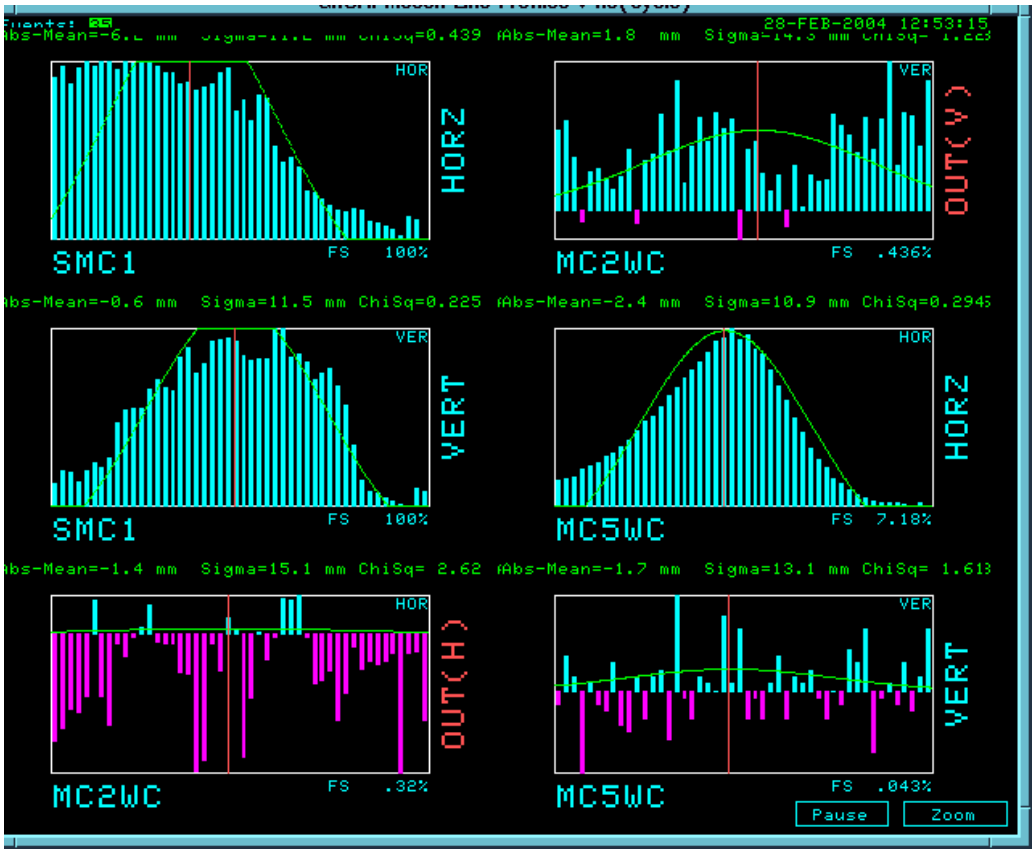

Figure 1 Beam in SMC1 and MC5WC

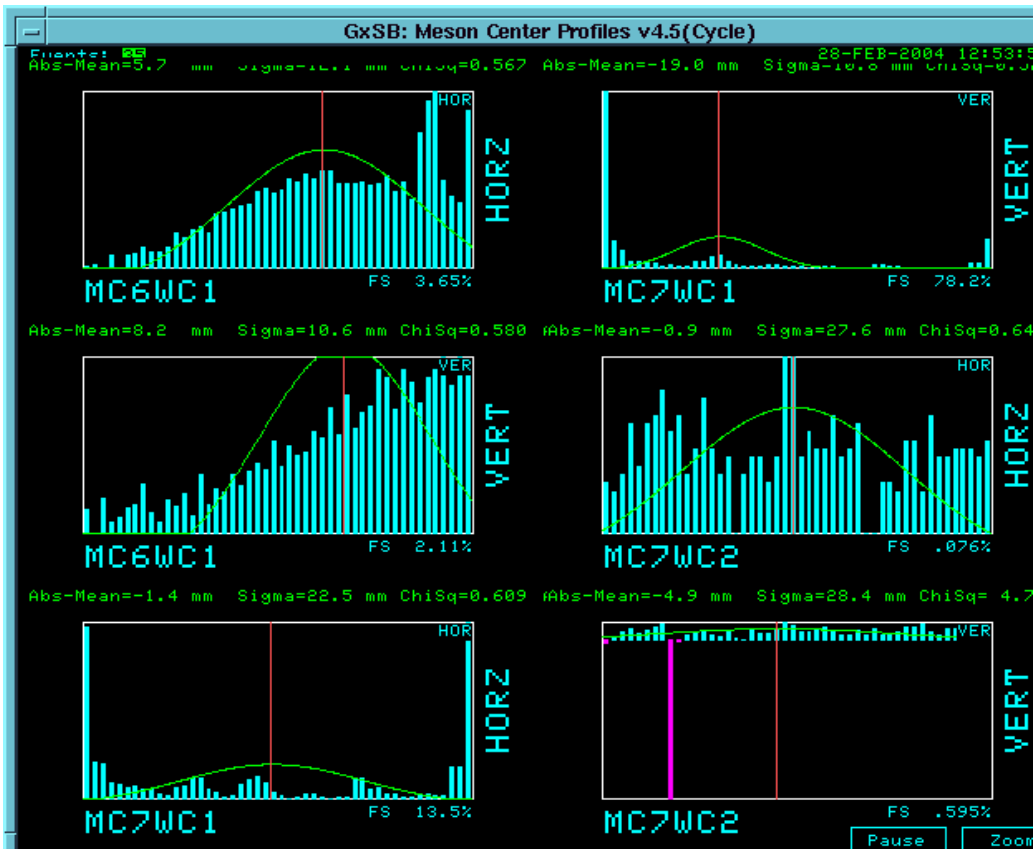

Figure 2 Beam in MC6WC1 just upstream of primary target. MC7WC's are reading noise

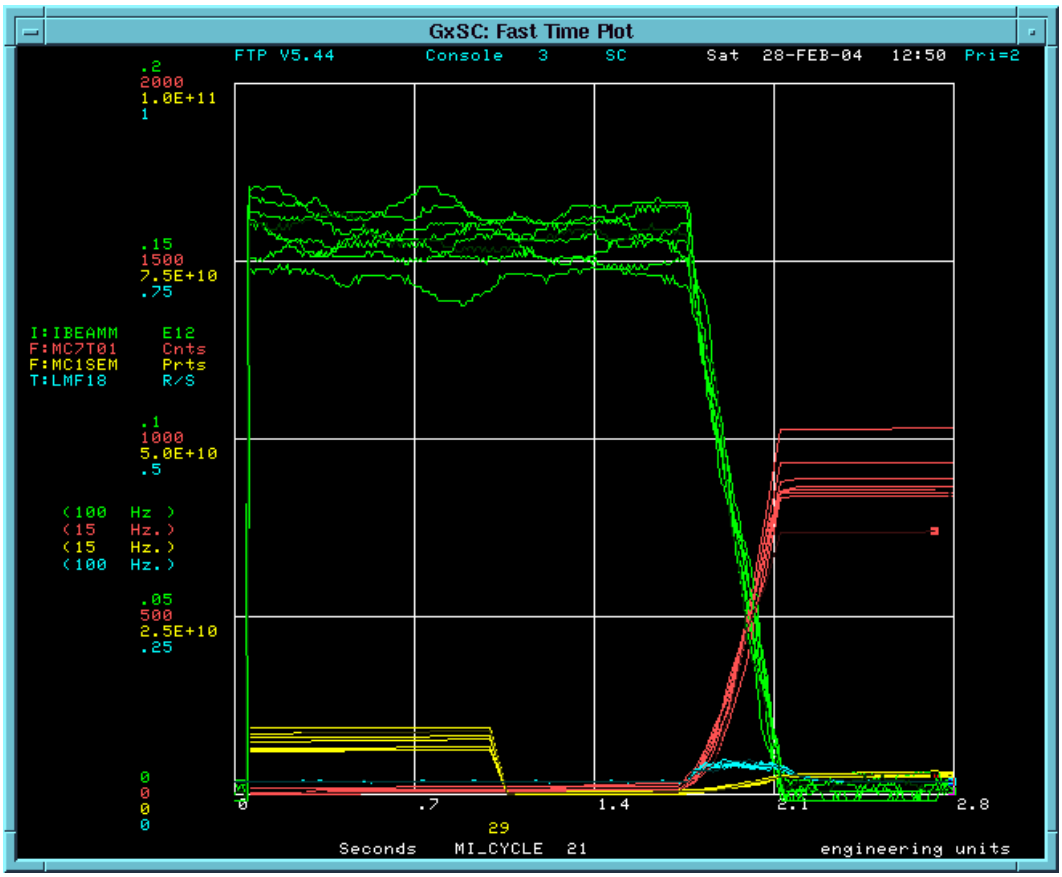

Figure 3 Green curve is the intensity in Main Injector. Red Curve is the T01 scaler as the slow spill happens, the T01 scaler registers ~ 1000 hits.

All in all, this was a successful turn on. We now have enough beam to tune the apparatus. The beamline instrumentation needs work as well as the beam tuning. MIPP needs to bring into the DAQ the beam chambers and the TPC.