

- **Proton Source**
 - Linac -
 - 2 largest sources of problems.
 - ◻ Ion Sources
 - ◆ Less reliable? We need to know why?
 - ◻ Driver for 7835 (4616) -
 - Booster
 - New correctors. Why do we need them? They help losses. We need another 50% out of Booster to meet proton plan.
 - Between new correction system and new extraction chopper should be able to help losses.
 - Reliability - once identified problem with tubes for PAs.
- **Main Injector**
 - Booster Beam Quality
 - Still need to go up a couple percent on slip stacking eff. Have to study beam quality. We still have gains to make in slip stacking.
 - Operationally, water leak in MIRF station.
 - Kicker problems. Charging supply fixed.
 - Problem with pbar damper turning itself off last week.
 - Studies
 - Slip-stacking - trying to raise the voltage
 - Lattice measurements - try to see if we have beta waves.
 - SY120 will request 1 sec and 4 sec spills...rapid change overs. Pings? MI would like another event. Will need to creat new ramps.
- **Pbar**
 - Accumulator Lattice is in
 - Leg 3 is on and functioning.
 - Transverse emittances better.
 - Don't see any problems yet.
 - It is easy for stacktail to blow beam outside of low energy side of beam.
 - Accumulator orbit is not exactly the same...have to work on it.
 - Matching beam line Acc to MI. Not matched. MI IPM showed that we have a mismatch.
 - Took a small hit in transfer efficiency. Mismatch, orbit acc. 270 deg phase advance between kicker and lambertson.....
 - D/A line probably not matched. Not measured and does not match on paper. Need hardware changes to get perfect match.
 - Measurements -
 - Equalizer - upstairs job.
 - Switchable optical notch filters for Debuncher - half a shift to a shift.
 - Debuncher stochastic cooling upgrade in June.
 - Investment in Accumulator orbit....significant time....reverse protons....
 - Quick debuncher orbit measurements during transfers, but have to mistune DRF1, then takes time to learn back in.
 - Lens module - lens itself in good conditions....it was the transformer...
 - Both were new type lens. New style water cooled transformer...showing taking away more heat....lens is now running cooler.
 - Protons on target, number of, reason for failure....
 - Position in vault not the same as previous lens. Trims on both sides of the vault are very different. Few % down....will move lens and let autotune dial it back in.
 - Pulsed magnet is longest lived...
- **Recycler**
 - Damper not in - not sure....Nathan , system expert, away from the lab. Back

- tomorrow.
- Interruptions Accelnet and ECOOL VME....actively persuing it. VME processor and crate in pit at mi31. Controls in the process of moving processor in the computer room. New FE computer has been ordered for ACCELNET. Vendor -> Fermi -> Argonne-> Vendorvendor again shipping back.
 - Additional diagnostics code put in and caused trouble with reboot.
 - Studies - more frequent transfers.
- DCCT waiting for installation...
- **Tevatron**
 - Trying to get back to performance levels.
 - Getting back to a better orbit.
 - Some of the beam-beam issues seem to get a little worse, change in helix taken care of, but other problems...
 - Some loss porblems got worse...
 - More to work on....not tapped out in tuning...may need more lattice measurements....
 - Have been using same nominal orbit for years, small changes added up, nominal orbit looks like helix....a little bit of problems for D0. have some problems getting to zero at all locations....would prefer to be down the middle.
 - Problems that we have had during collisions, helping redefining sweet spot...
 - a
 - Limitations on intensity? Afraid to go higherhoping to get to where can go up...
 - Tunes - by June, will have them back....
- **External Beam**
 - SY120 off
 - KTeV - quick pass through optics as quick as possible....not sure if Mwest or KTeV. The experiment will be later.
 - MB
 - Sump fails every 18 months....forgot where the spare was.
 - NuMi
 - Ordering hall probe for NuMI horn.
 - MTA shielding for waveguide.