

MIPP Update

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- JGG coil short
- TPC troubles
- Statistics

MIPP detector & beam status

- The JGG analysis magnet prevented us from taking data early in the week.
- The TPC had problems with the water chiller on thursday and again on friday
- Beam was sometimes bad, but experts could provide good beam after some tuning
 - It is not ok to hit the MIPP primary target at an angle to reduce secondary intensity
- We were taking good data over the weekend.

JGG coil short and fix

- On 3/20 at 23:55 the JGG analysis magnet in MIPP developed a coil-to-coil short across 5 of the 16 coils in one of the four pancakes.
 - Immediately noticed by shifters (imbalance and field slow monitoring).
 - Continued taking data of limited use until monday morning.
- The exact diagnosis and bypassing of the bad coils was done on monday through wednesday
 - Problem diagnosed on monday
 - Run magnet off alignment data on monday night
 - Jumper bracket fabricated tuesday morning
 - Final testing tuesday afternoon (some delay because magnets were interlocked)
 - No data taken tuesday night
 - Safety approval on wednesday mid-day
- MIPP running resumed on wednesday afternoon/evening

JGG coil short implications on data

- Number of coils:
 - 6 coils in this pancake had already been shorted out in May 2004
 - We were running with 58 of 64 coils
 - This short affected 4 coils
 - 5 of 16 coils left in this pancake, 54 of 64 total.
- Coil configuration:
 - Coils on top are in series, coils on bottom are in series. These two branches are in parallel.
 - This results in the same number of current-turns on top and bottom before and after the coil shorts
 - With 10% increased current we get (to first order) the same magnetic field shape and strength
 - There are changes in field shape at the percent level.

TPC problems last week

- Parts of the TPC readout stopped working on wednesday afternoon/evening
 - Traced to overheating due to chiller control electronics failure
 - Chiller was brought back to life and spare chiller was moved into MC7 on wednesday
 - The spare does not have alarms circuits (older model)
 - We took data over night, but the chiller failed thursday morning
 - Beam down for Meson RAW system most of thursday anyway
 - Spare chiller was connected
 - Additional temperature sensors were installed (read to APACS)
 - We now do not need to depend on the chiller alarms
 - TPC pedestals had to be updated multiple times
 - Several other small problems had to be fixed that resulted from this chiller problem
 - Several accesses on friday during the day

MIPP Statistics

- Data on full and empty cryo-target (H_2) at -59 GeV/c and +85 GeV/c:
 - -50 GeV/c LH2: 28458 spills (1575 of these were empty), 135308 K-interactions, 185296 pi-interactions, 20661 p-interactions, 341265 interactions total (only parts last week, most in previous week)
 - +85 GeV/c empty Cryo-target: 4809 spills (120 empty), 5357 K, 18296 pi, 43796 p, 67449 total in 11:39:45 hours on 3/27
 - +85 GeV/c LH2: 9243 spills (421 empty), 9866 K, 34142 pi, 107057 p, 151065 total in 1 day 02:08:57 hours during 03/25 to 2005-03-28

MIPP summary

- This was a bad week for MIPP.
- All detectors, beam, and target are working. We expect to do much better this week.