Minutes of spin meeting 05/21/08

Anatoli first showed Wolfram's RHIC pp projection for next a few years. Yousef suggested to put an internal note to details the derivation (or current understanding) for all parameters shown in there. As Anatoli showed several times before, the source polarization operated with a narrow peak in the correction coil current. Yousef asked if it is wise to operate at the sharp edge. Anatoli said this current was frequently scanned to make sure that it was optimized. Anatoli also showed proton-Deuteron polarimeter data taken in 2002. These measurements were believed done after the polarimeter configuration change (moving detectors away to reduce the acceptance). The data consistently show about 8% higher polarization than the p-carbon polarimeter, although the error bar of p-D polarimeter is generally large. His message is that we should redo the p-D calibration and the polarization at the 200MeV was not lower than the values measured by p-C polarimeter. In comment about the run8 source perofrmance, he believed the source is about 4% lower than run6. A few quick checks after March 10 showed that the H_2 suppression was not optimized. He warned that it will take time to optimize the source performance in the coming run as the LEBT upgrade forces us to run with new configuration. This would require that source and linac to be turned on earlier than normalt o make sure good source performance.

The discussion continued on the emittance improvement after LEBT upgrade. He (or Deepak) expected the emittances at the end of linac to be reduced from 10π round beam to 5π. The Booster extraction emittances would be reduced by reducing horizontal beta function at the Booster injection stripping foil (The hope is that the Booster scraping is not necessary for similar intensity. Then the pulse width can be reduced down from 400 μs to 300μs such that the emittance growth at stripping foil can be reduced). Leif asked Anatoli to explain the statement "Booster scraping efficiency was less effective this year than run6". He answered that this was based on RHIC injection emittance measurements but we will take a closer look at the data. Michiko asked what is the main problem in the whole injector chain, the answer was BtA and AGS emittance growth.

Haixin