

Meeing minute of May 7, 2008

From Chian, the ceramic beam pipes were ordered. The PO for the ac dipole coils was sent out. The final drawing of the ac dipole coil for the manufacture should be done and checked at the end of the week.

Wuzheng presented his study of the integrated field strength of the two DC spin rotators in the middle of the spin flipper. According to his calculation, 1m distance between the two ends of the dipoles introduces an additional integrated Bdl of about 256Gauss-cm. Similar calculation was also done for one DC spin rotator and one ac dipole with ferrite. Again, with the 1m distance between the two ends, the residual integrated Bdl is about 89Gauss-cm. So, as long as we keep the symmetry of the layout and keep the magnets apart for at least 1m, field clamps are not necessary. The only concern is the additional orbital excursion due to the longer distance. For our current configuration, **the 0.45Tm gives about 7mm excursion.**

Phil also brought up whether **3.5d-3 tolerance of the total integrated Bdl** is too hard to achieve because each individual magnet has an uncertainty of about 1d-3. According to Charlie, the uncertainty of **the pole tips(+7d-3 mill) will be about 1d-3**. Thomas suggested we keep the tolerance of each magnet at 1d-3 and we should also consider to keep the DC spin rotator on as part of the RHIC ramp/store. This way, the orbital distortion due to the imperfection of the 4 DC spin rotators can be automatically compensated by the overall orbit corrections. We also agreed that all the four DC dipoles should be carefully measured. Charlie will talk to the magnet division to make the arrangement. Both Phil and Wuzheng also suggest that based on the magnetic field measurements, we can keep the two DC dipoles which have the biggest error and smallest error in the same polarity to minimize the total integrated field error.

Charlie reported the shipping cost for the non-BNL DC dipoles. The cost of shipping the FNAL DC dipole is about \$4508 per magnet. And the cost of shipping the SLAC magnet is about \$12082 per magnet. With the overhead, we need about \$50k to ship these magnets(2 from FNAL and 2 from SLAC). Mei will look to see whether we can come the money.

Charlie also mentioned that we should be aware that two DC dipoles from the D-line might be hot compare to the RHIC ring. As for the water cooling, Joe is still looking at it. No estimate yet.

John and Charlie will also look to see whether there are any existing cables that we can use for the DC dipoles. According to Peter Oddo, we also need **cables for the ac dipoles. The estimate is about \$6000.**

Peter also mentioned the static test of the dynamic tuning was done. A frequency range from 37.5kHz to 39.2kHz was achieved. However, he did see the impedance was lower than what he expected. This could be due to the scope and he plans to re-measure the impedance with the scope. He will try to give a report at the next meeting.