

Woody presented his search of quadrupole magnets and power supplies for the horizontal tune jump method. The requirement was scaled from the tune jump quads used in 80's for our current minimum needs of 0.01 tune jump in $100\mu s$. Although there was some doubt in the meeting that the jump time was not set correctly, Woody confirmed after the meeting that $100\mu s$ indeed was used for the calculation. Here are the list of quadrupoles under consideration:

1) Original tune jump quads with ceramic beam pipe. It would be the horizontal limit aperture (0.5" shorter in diameter) and heat load is a concern if Au beam is dumped here by accident. However, the aperture may not be a problem for such intensity and we feel reasonably confident about our beam dump system.

2) Quad 8Q32. It requires higher voltage to operate.

3) Quad 8Q48. It has to be modified but the voltage requirement can be reduced by half.

4) Contact FNAL/SLAC to see if they have any quads fit our needs.

5) γ_t quads. John Morris reminded us that we actually used them in a similar manner in the past. They are at right locations and we don't need all six for γ_t jump. The inductance may be a concern. Woody will estimate if it fits our needs.

Power supply. The old fast bump P/S is the best candidate.

Thomas pointed out that 0.01 tune jump is a minimum. A larger jump is beneficial and is better than a faster jump since this provides more margins for tune spread. We can use two quads to double the jump amplitude. The horizontal tune would have to be set as constant through out the ramp so that the timing of all these jumps can be set easily. To see the effect, we probably can shift the overall timing for all 80+ crossings.

Waldo presented his simulation of A15 multi-wire beam profiles. Based on the parameters given from Booster and AGS lattices, the beam decay is still less than what has been observed. Even including the nuclear cross section does not give the observed beam loss rate. Leif pointed out that the horizontal aperture may be somewhere else, not at A15 as assumed. These results raised question if we can use the single turn and multi-turn profiles at A15 to judge the injection matching. More simulation with matched beam will follow.

There is a new idea to run RHIC with spin tune at 0.25 which could open up betatron tune space around 0.5. It requires the snake angles between the two snakes to be close to 45° . Waldo also presented the local orbits and required snake currents for spin tune $\nu_s=0.25$. The outer helices have to run harder. The excursion amplitude is smaller, and the orbit bump probably can be avoided. Mei said she will have spin tracking for it next week.

The final discussion is about the polarization loss through out the entire accelerator chain. Anatoli suggested to rebuild the deuteron polarimeter at 200MeV to recalibrate the carbon polarimeter there. He also suggested to compare 200MeV and AGS injection polarization measurements between run6 and run8 in next meeting.

Haixin