

This meeting focused on cures of the AGS injection and extraction polarization loss due to spin mismatch. With two snake scenario, polarization loss is about 4% at injection and as much as 10% for extraction to Blue ring. Waldo presented back in May that when cold snake is in use, the spin transmission efficiency at $G\gamma = 46.5$ is low, but $G\gamma = 45.5$ has better spin matching. There are three possible ways to overcome this loss: put additional spin rotator in the AtR line; detune one snake in RHIC and lower the RHIC injection energy to $G\gamma = 45.5$.

The third solution implies the injection energy is closer to the γ_t , which could cause beam instability. Christoph presented the ideas to lower the γ_t by either running the γ_t quads or lower the horizontal tune by one unit. The depol calculation done by Waldo shows little resonance strength change in both cases. Running γ_t generates beta waves when γ_t is lowered by 0.4 unit. Lower horizontal tune by one unit implies to retune the ramp, working point at store, which are quite significant work. Thomas suggested to concentrate on cases using γ_t quads and do simulation with γ_t lower by 0.5 and 1 unit.

Haixin discussed the idea of using an ac dipole(not existing) in the Booster to tilt spin at extraction to match the spin direction at AGS injection with both snakes on. This requires to change the Booster vertical tune close to extraction $G\gamma$ value and place the ac dipole drive tune close to the vertical tune. The challenge is that extraction timing has to be very accurate(in which turn to extract). Spin tracking will follow.

Haixin