

Fanglei reported the progress on spin tracking. For the 15%+6% partial snakes, one particle tracking (vertical emittance only) shows polarization loss around  $G\gamma=5$  with  $\nu_y = 8.91$  but not for the case of  $\nu_y = 8.94$ . She did tracking all the way up to the flattop with the two different initial tunes. The final polarization is differed by 6%. This indicates that there is polarization loss around  $G\gamma = 5$  due to the intrinsic resonances. These two resonances should be weak without partial snakes, but the lattice distortion by the snakes may increase the resonance strength for the two intrinsic around  $G\gamma = 5$ . When the vertical tune is not in the spin tune gap, polarization loss happens. This may contribute to the vertical polarization profile we have seen in last run. Woddy suggested to do a similar tracking with 10% +6% partial snakes. Mei suggested to do the same trackings but replacing the partial snakes with drift spaces in the MAD file. Fanglei also did one particle tracking with various rms emittances. Current DEPOL program probably can not handle the field map correctly, but the resonance strength can be calculated from DEPOL program for various lattices as comparison (different snake strength, no snake).

Kevin reported the status of AGS lattice modeling without partial snakes and comparison with tune (April 10) and chromaticity (June 22) measurements (at high energies, the snake effect is very small). There were two sets of tune measurements done with high and low vertical tune on the flattop. The measured tunes and modeled tunes had different behavior at flattop. Leif pointed out that this could be due to synchro setting difference: one was done with synchro on but the other was done with synchro off. In both cases, the vertical tune calculated from MAD8/MAD-x agreed quantitatively in the later half ramp part while differed at flattop. The agreement for horizontal tune is worse than vertical. Kevin played with K1 and radius in the model to match the experimental data, but the required K1 or radius change are too big to be true. Kevin gave a list of suggested beam parameter measurement for next run.

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