# RHIC SPIN MEETING ~ DISCUSSION

G. Bunce, November 15, 2001

for
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RIKEN BNL Research Center

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RHIC Spin Meeting---Discussion

We discussed each of the proposed polarimeters:

1. AGS proton-carbon CNI polarimeter. First concern---calibration over the AGS energy range. We can calibrate at AGS injection energy at COSY. We can use the present AGS polarimeter to do the calibration (with some difficulties, since the pp polarimeter uses low intensity and debunched beam). The issue is to get a calibration good to 10-15%. With that, the AGS CNI polarimeter would be a very attractive diagnostic tool to improve and check AGS polarization. It is particularly attractive to measure the polarization on the ramp, since we would not then need to sit on a flattop to make measurements, which can cause polarization loss from weak resonances. This is a very attractive polarimeter. A question came up on whether we would want to do a vertical scan for polarization (which would mean 45 degree detectors, rather than only left-right).

2. AGS experiment to improve knowledge of RHIC polarization. Measure the analyzing power of pC CNI by measurement of pp elastic scattering from a polarized target in an extracted AGS beamline. If the analyzing power can be measured to 5% it would represent an independent measurement, to be compared with results from the internal polarized jet target at RHIC. This was first suggested as a means of getting a better polarization normalization for RHIC, in advance of the installation of the jet target for 2004. If, however, this can provide a very good measurement, it may be useful even if done after the jet. There is a concern that the cost and effort would be a large diversion from the jet. We have decided to look into it further.

3. RHIC polarized jet. This is the gold standard for RHIC polarization. One issue which came up (from Anatoli Zelinski) was whether a holding field is necessary. This will be studied. Several of us met after the RHIC spin meeting to go over details for the jet. The goal is to have the jet in place for the 2004 RHIC spin running.

4. An ep polarimeter using $A_{SL}$, with L for electrons was discussed by Falk Meissner.