

August 3, 2000  
GAS

## **AGS Transverse Damper Upgrade Project**

In order to be used in damping the Heavy Ion Beam at injection into AGS, the present Transverse Damper System will need some modifications. Specifically, the digital processing hardware that exists is not compatible with harmonic number 24 due to the lack of depth in the present FIFO.

The Controls Group is now designing a new digital module. A number of different things are being put into this new module that represent improvements over the old module. These are:

1. Compatibility with harmonic numbers up to 24 selectable via spreadsheet.
2. Expansion to ten bit resolution in the A/D and D/A converters

In addition it has been decided to change the computer system interface from the old Instrument Controller to the VME Based System used now being used in RHIC and AGS.

The consequences of the changes listed above are that the Analog Electronics will need to be modified as well. The way in which this electronics is controlled, read and connected is different in detail with the new equipment. In addition some needed improvements will be made. Below is a list of the changes that we are planning to make:

1. Construct a new Eurocard Crate that will contain the Buffers, Integrators, Phase Shifters and Delay Modules and eliminate the A/D and D/A Converters that are moving into the Digital Module.
2. Repackage the Phase Shifters into Eurocard Modules and implement digital control.
3. Modify the Integrators to bring their outputs out the front panels.
4. Construct new interconnects to accommodate the new Control Modules