Polarized Target Controls

for

SLAC Photon Experiments

E159 & E161

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General Control Aspects

- Two PCs in Counting House: Cryo and NMR
- Two (or more) PCs in End Station
- PCs run **LabVIEW** for Windows or Linux
- PCI-based ADC and DAC cards for discrete voltages
- GPIB cards for communication with rackmount devices
- Terrific VNC Server provides:
  - Secure remote viewing, control
  - Shared access
  - Cross platform - all OSs supported

Magnet Controls

- Main coil supply - “Standard” Oxford PS
- Shim coils - one supply for all shims
  - Can’t ramp shims in parallel with main coil
  - Shim currents set one-by-one
- GPIB interface, most control code exists

NMR & DAQ System

- Have 3rd generation code in LabVIEW
- Equipment is similar to previous experiments
- Modifications:
  - Multiple NMR coils/QMeters?
  - Different method of tuning microwaves
  - Other differences in microwaves likely - new drivers?

Cryogenic Monitoring and Control

- Control and monitoring programs in LabVIEW
- User-friendly “Annotated Schematic” design
- Most customized aspect of experiment
- PID loops used to maintain levels for the user
- More design work coming