

# Polarized $^3\text{He}$ Target Analysis and Status

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- NMR calibrations
- Target Equipment Status
- Status for SAGDH
- Future Work

## NMR Calibrations and Issues

### NMR Calibrations

- Duke (January 5 to February 6, 2003)
  - Pre-experiment no good water calibrations
  - EPR used to calibrate NMR signal for Duke
  - Above  $\sim 35\%$ , EPR caused masing
  - After January 16, 2003, EPR only done at low polarization and for calibration tests
- Exodus (February 7 to February 13, 2003)
  - Post-experiment 6 decent water calibrations (3 good, 3 okay)
  - EPR calibration not good due to masing
  - Target lifting motor caused significant background noise
  - Initial analysis agrees with EPR calibration for Duke
- Issue: Pick-up coils moved while Exodus was used

## Target Equipment Status

### Equipment Status

- Shipped Coherent 2 and 5 for repair (In process of repair)
- Shipped KEPCO 4 for repair (Returned to JLab last week)
- Ordered new KEPCO power Supply (Arrived)
- Ordered a new Wavetek 80 as spare (Delivery Early April)
- Nilanga ordered a new KEPCO power supply and RF amplifier

### Target Components:

- New Target ladders ready
- New Pick-up coil mounts ready
- Need to prepare and test a spare set of pick-up coils
- Need thin-wall and Ice cone reference cells

## Status for SAGDH

### Improvements:

- Read Helmholtz coil currents via EPICS
- Send spectrum analyzer signal upstairs
- Improve spectrum analyzer for Transverse direction
- Reference cell RTD's

## Future Work

### Target Work:

- Installation of Polarized  $^3\text{He}$  Target
- Thorough Calibration of Helmholtz and correction coils
- Field map of Helmholtz coils, correction coils, and Septum

### Spin-Duality Target Analysis:

- Water calibration analysis
- Field Map analysis
- NMR analysis