

# Faraday Tests of Probe Line (tvm & rxp)

- **Noise Tests.**
- **Photodiode Qualification: 3 mm with preamp, 3 mm no preamp, 1 mm no preamp - all are suitable. Observe mode-locked structure with the 1 mm photodiode.**
- **Faraday Rotation with Diode Laser Internal Modulation (749 nm).**
- **Faraday Rotation with Mode-Locked Ti-Saph (790 nm).**

K-M CW Laser Noise: 0.54%

K-M Mode-Locked Laser Noise: 0.11%

Detector Photodiode (with preamp) Noise : 37 nV/root Hz

Lock-In Noise : 7 nV/root Hz

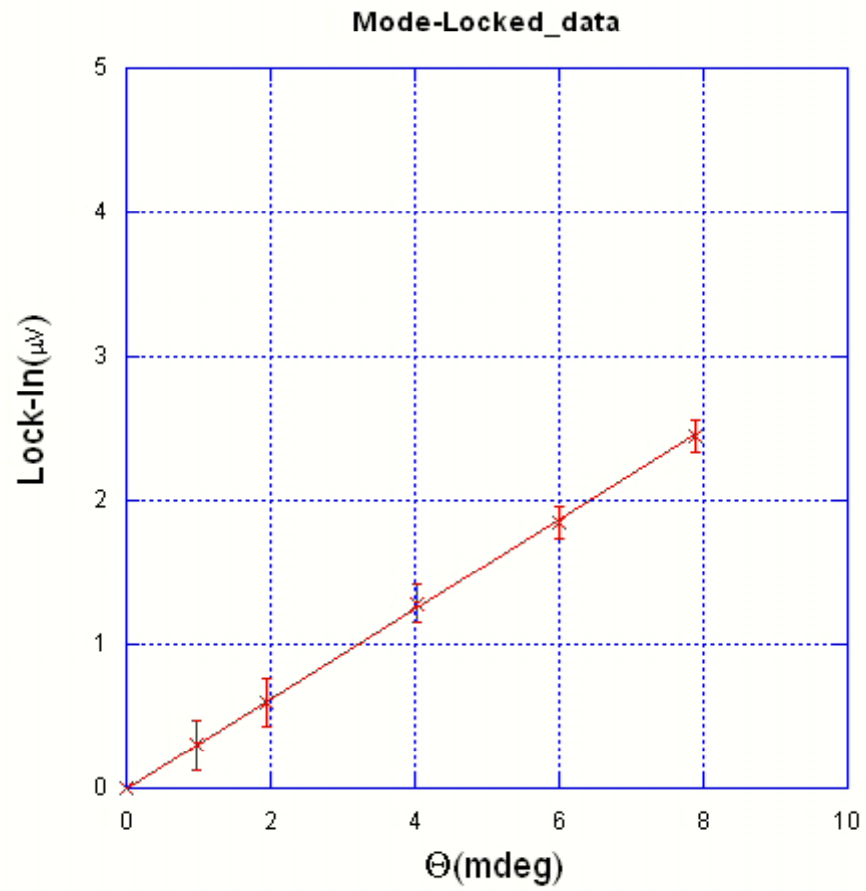
Faraday Rotation with 19 mm TGG glass rod ( $V = 0.30$  min/gauss-cm)

Coil: 0 -18 gauss

Diode Laser Internal Modulation Sensitivity ~ 1 mdeg

K-M Laser Chopper Modulation Faraday Sensitivity ~20 mrad

K-M Laser Coil Modulation Faraday Sensitivity ~1 mdeg



8/8/07