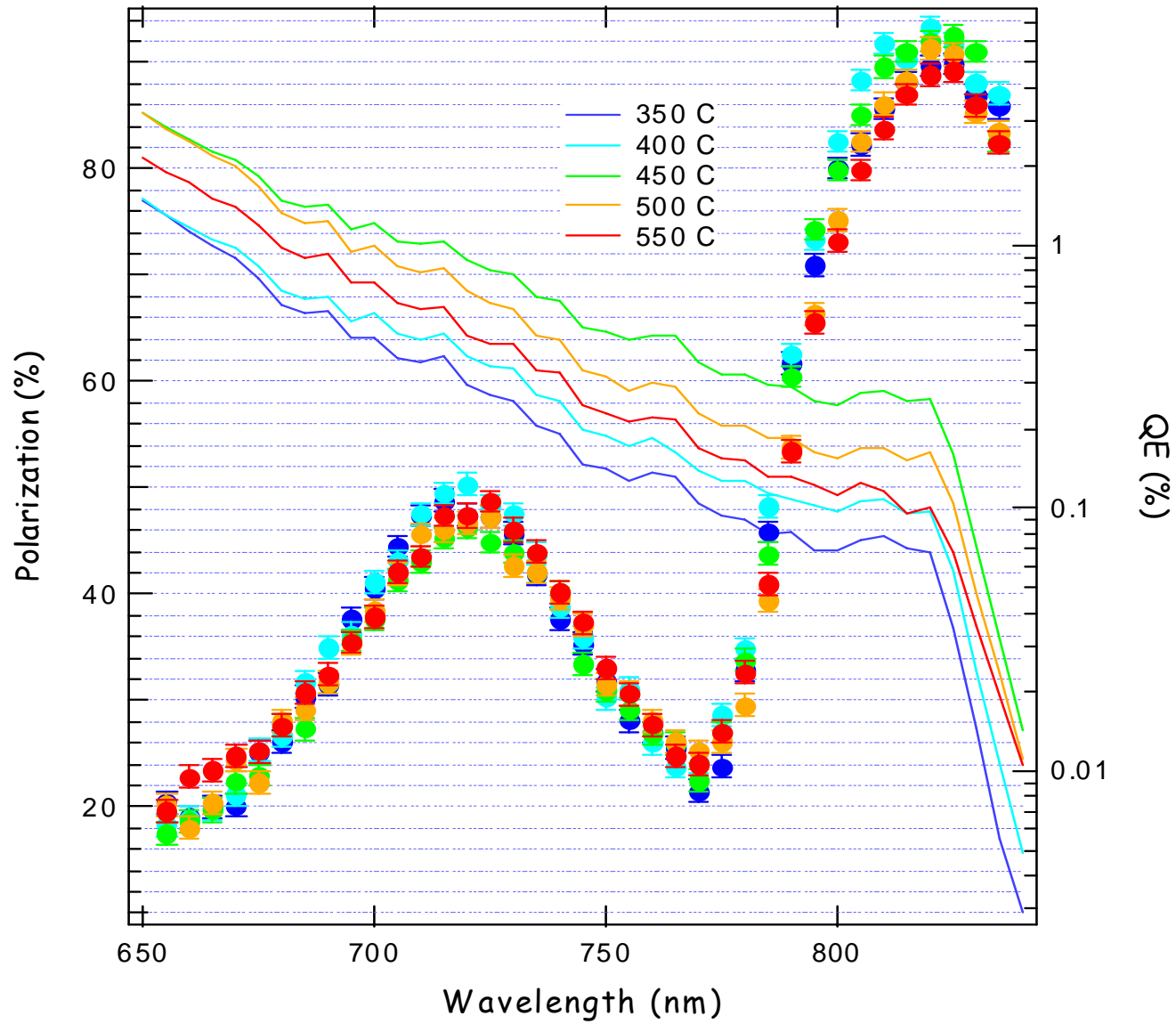


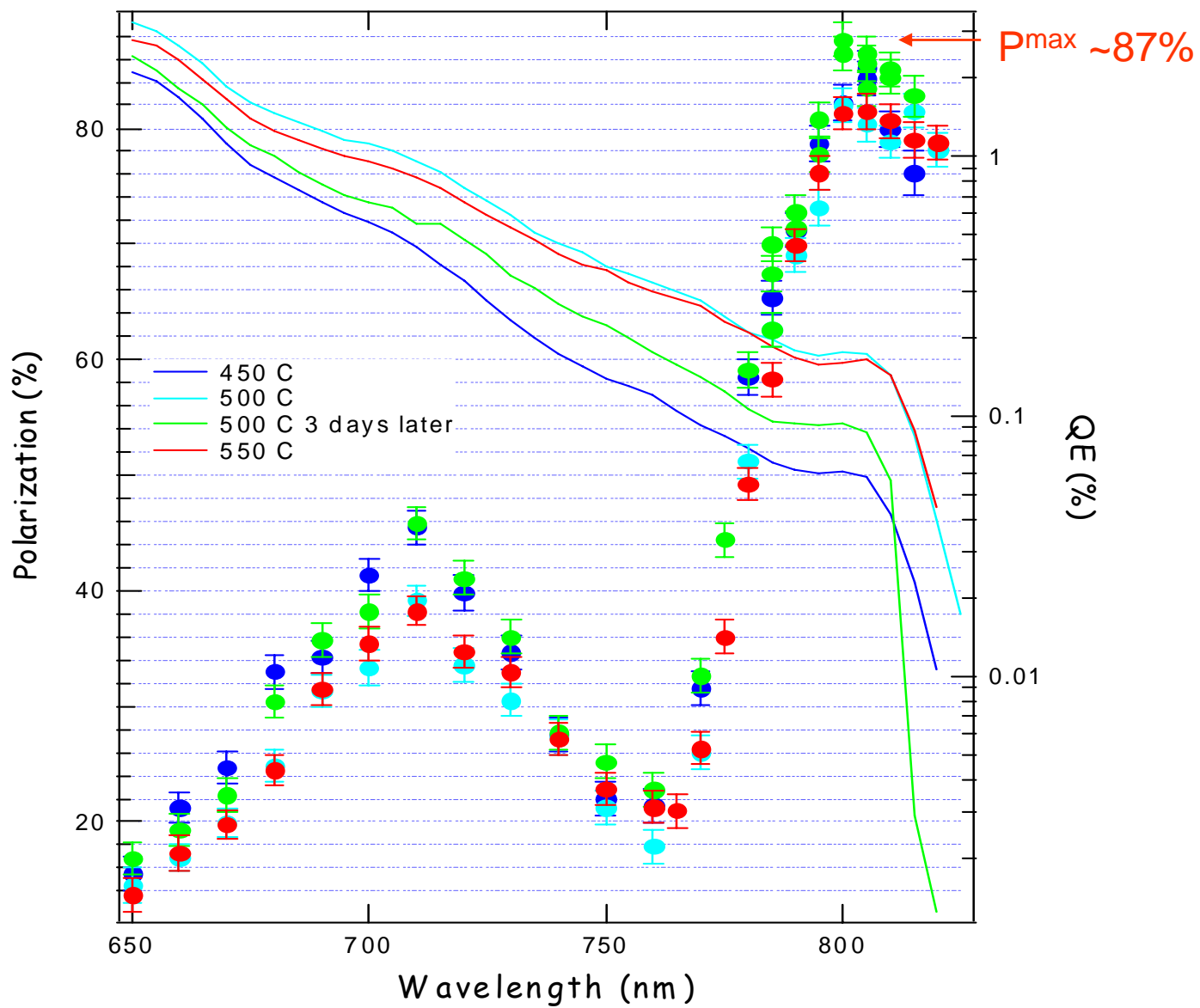
Russian AlInGaAs-AlGaAs superlattice

- Four wafers (7-632, 633, 634, 635) were delivered to SLAC on Jan. 4 2008, 1 ½ months after the growths.
- SPTU kept 1×1 cm samples and completed QE/Polarization measurements.
 - Peak polarizations
 - 7-632 88%
 - 7-633 92.3
 - 7-634 89
 - 7-635 93.4
- Measure QE/Polarization of 7-635
 - No chem cleaning.
 - Heat-cleaned at 450°C, 500°C, and 550°C.

SPTU measurements of 7-635



CTS measurements of 7-635

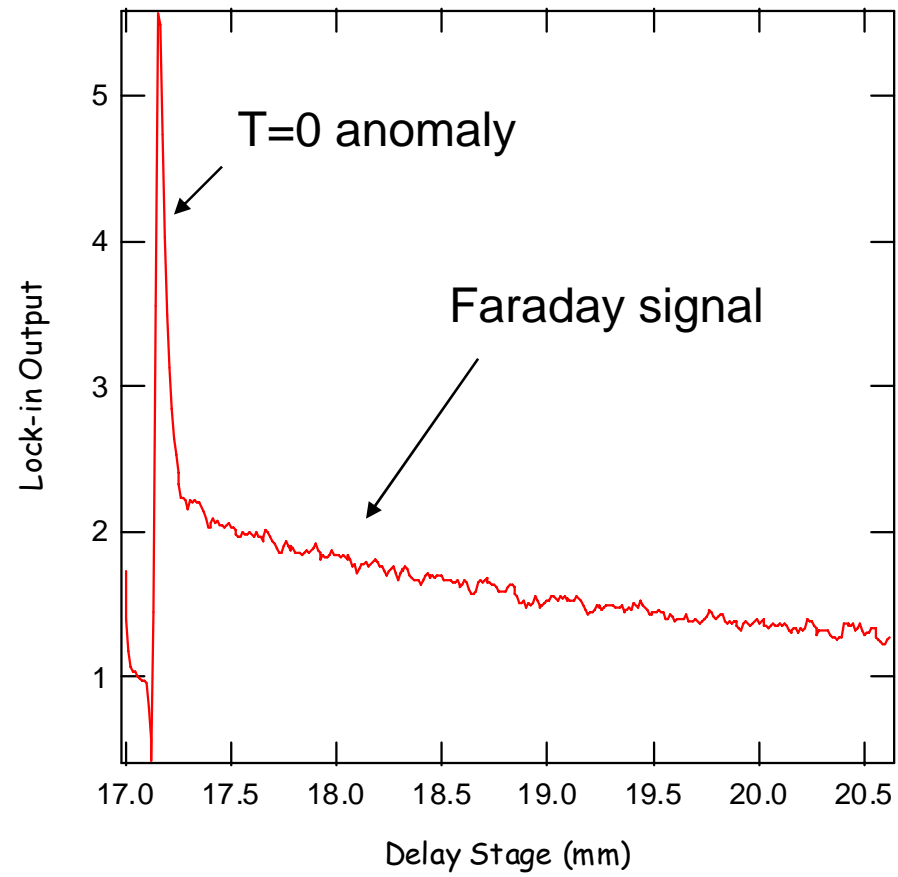


Faraday rotation experiment

- Faraday signal is stable and reproducible.
 - Signal is reproducible over many days.
 - Lost the beam overlap a couple of times but the signal was restored in ~ 10 min.
 - Beam overlap is made using $50 \mu\text{m}^\phi$ pin hole.
- Measure laser power dependence
- $T=0$ anomaly is not understood.

Faraday signal

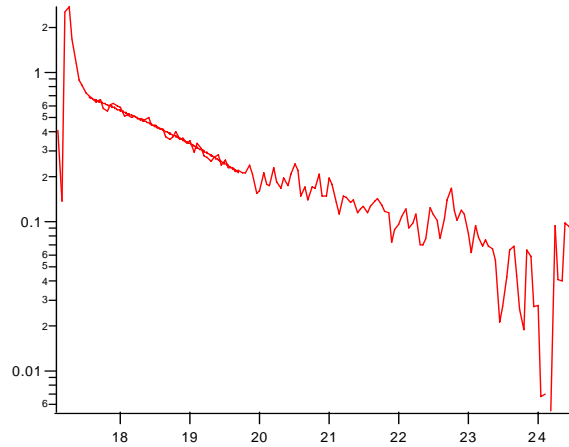
Bulk GaAs



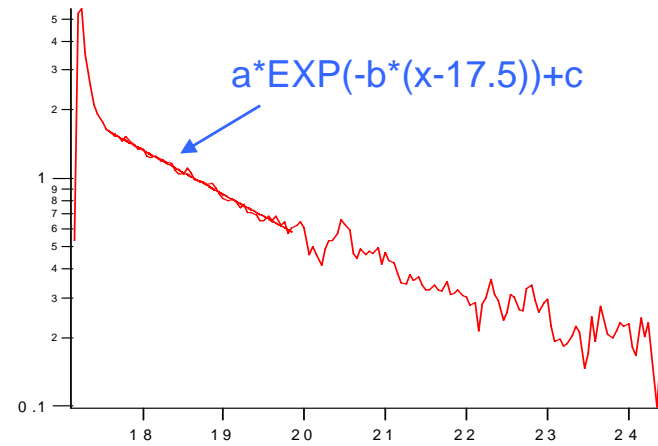
Pump-probe power dependence

Fix probe power and vary pump power

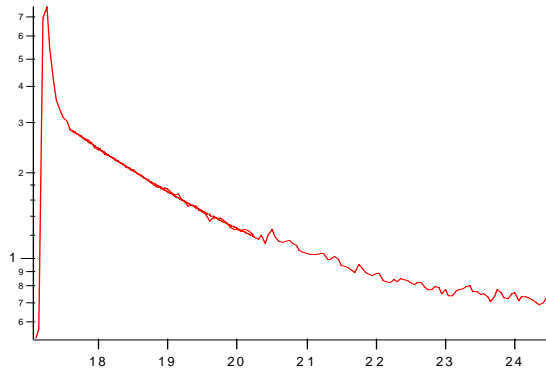
Pump / probe = 0.9 mW / 0.2 mW



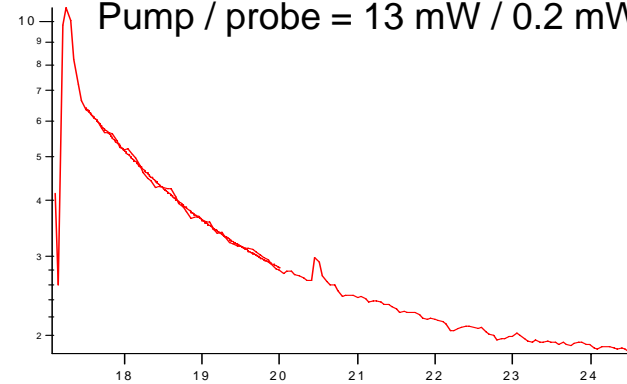
Pump / probe = 1.8 mW / 0.2 mW



Pump / probe = 3.6 mW / 0.2 mW



Pump / probe = 13 mW / 0.2 mW

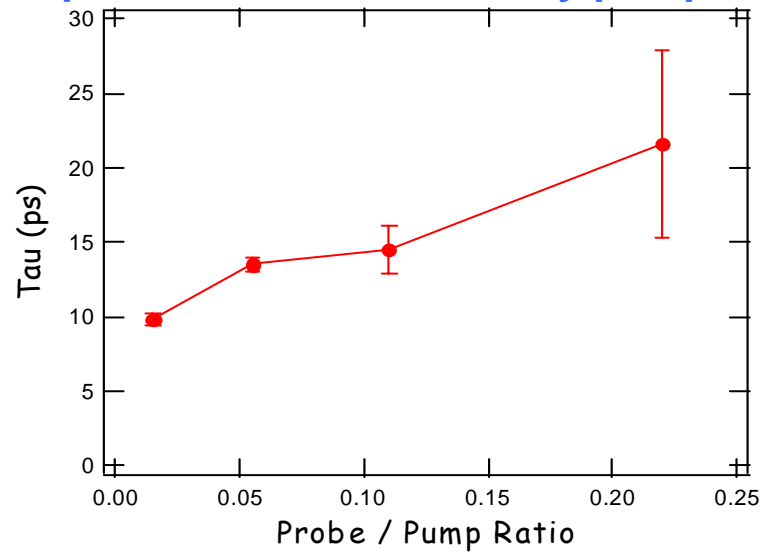


Stage (mm)

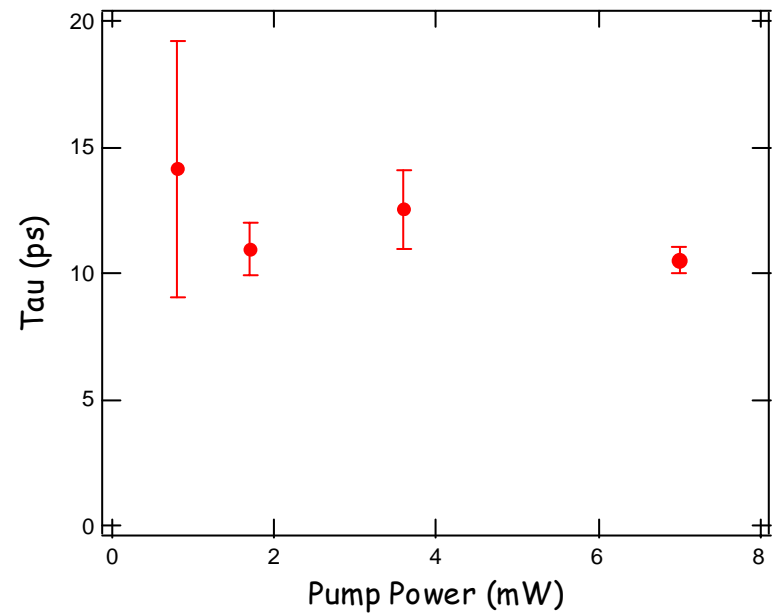
Stage (mm)

Laser power dependence

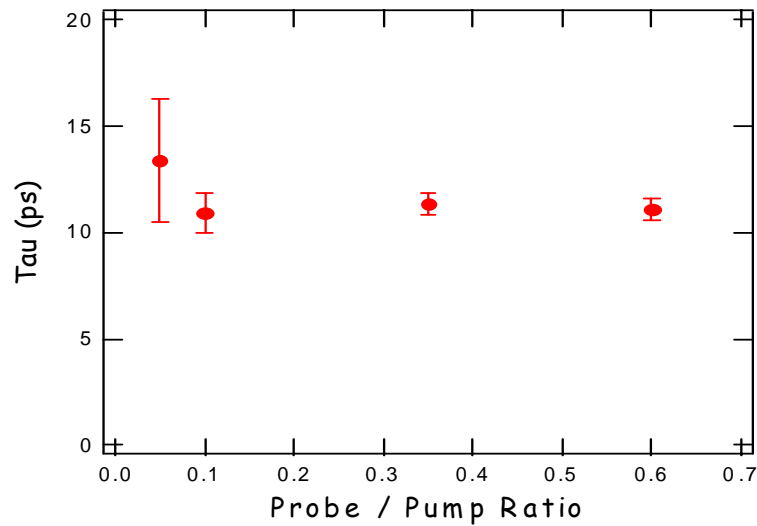
Fix probe to 0.2 mW and vary pump



Fix pump/probe ratio to ~8 and vary power



Fix pump to 2 mW and vary probe.



T=0 anomaly

