

Spintronics Researcher update: 04/26-05/10  
Recent developments and current plans

Xi Chen:

Gibum Kim: - Magneto-Transport of dig. GaSb/Mn 11218 series (L,K,J; different # of Mn Layers: 2,5,15)  
- SdH oscillations @ 5K yield electron density of about  $2 \cdot 10^{12} \text{ cm}^{-2}$ ; mobility about  $1600 \text{ cm}^2/\text{Vs}$ ; smaller than expected from prev. CR data on 50 Mn Layer samples ( $10^{12} \text{ cm}^{-2}$ )

Manhong Na:

Shumin Wang: - SQUID measurements of above samples including 11218A (30 Mn Layers): latter temperature behavior of remnant magnetization reminiscent of Ohno's random alloy samples, except for high temperature persistence of magnetization.

Miyeong Cheon: - electromagnetic coils did not work; will try permanent magnet for in situ manipulation of magnetic domains  
- get ready to move AFM to Fronczak Hall.

Kevin Mooney:

Chris Meining: - taking notes...

Dr. Korolev:

Dr. Petrou: - Mn acceptor related PL observed at NHMFL in dilute, random doped GaSb samples; no publication sighted so far

Dr. Markelz:

- Discussion of some ideas related to photo-doping of digital alloy samples; electron-hole separation necessary to do optical measurements.

Dr. McCombe:

- Arrival of several new samples: digital InAs/Mn samples with 30 and 50 Mn Layers with different spacer layer thickness and variation of Mn coverage; also series of InSb/Mn samples and InAs QD samples where single Mn spines are occupying QD and give rise to magnetic interaction in 0D geometry.