



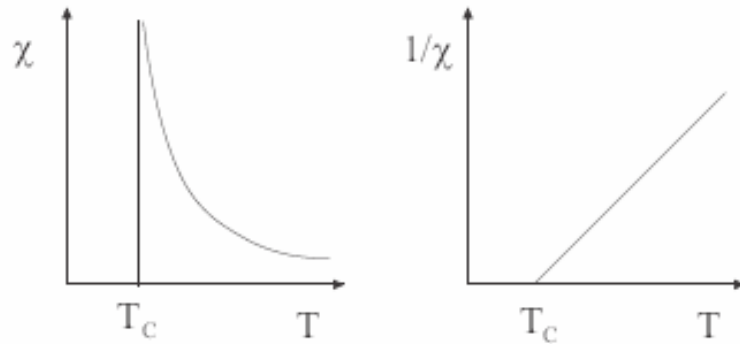
A study of CdCr_2O_4 using SPINS

Students: Adam Holferty, Matthew Hudson,
Naoyuki Katayama, Liang Luo, Wendy
Queen, Kandace Thomas, Peng Tong

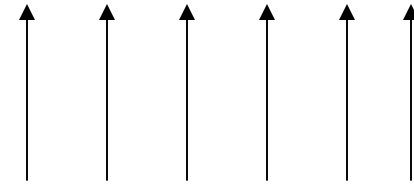
“Experts”: Sung Chang, Deepak Singh, Peter
Gehring

Magnetism

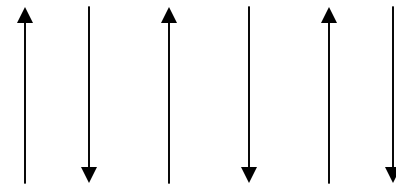
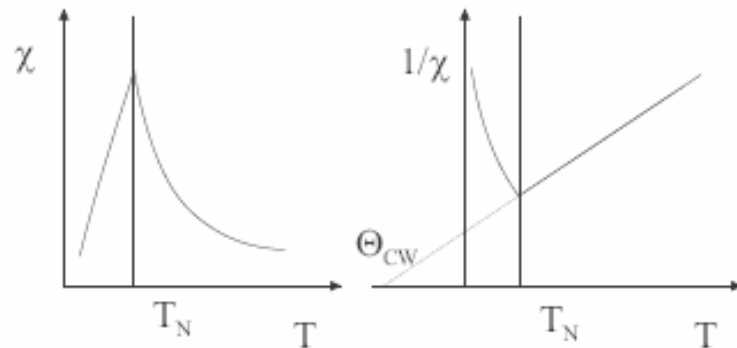
(a) ferromagnetism



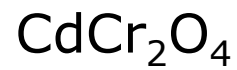
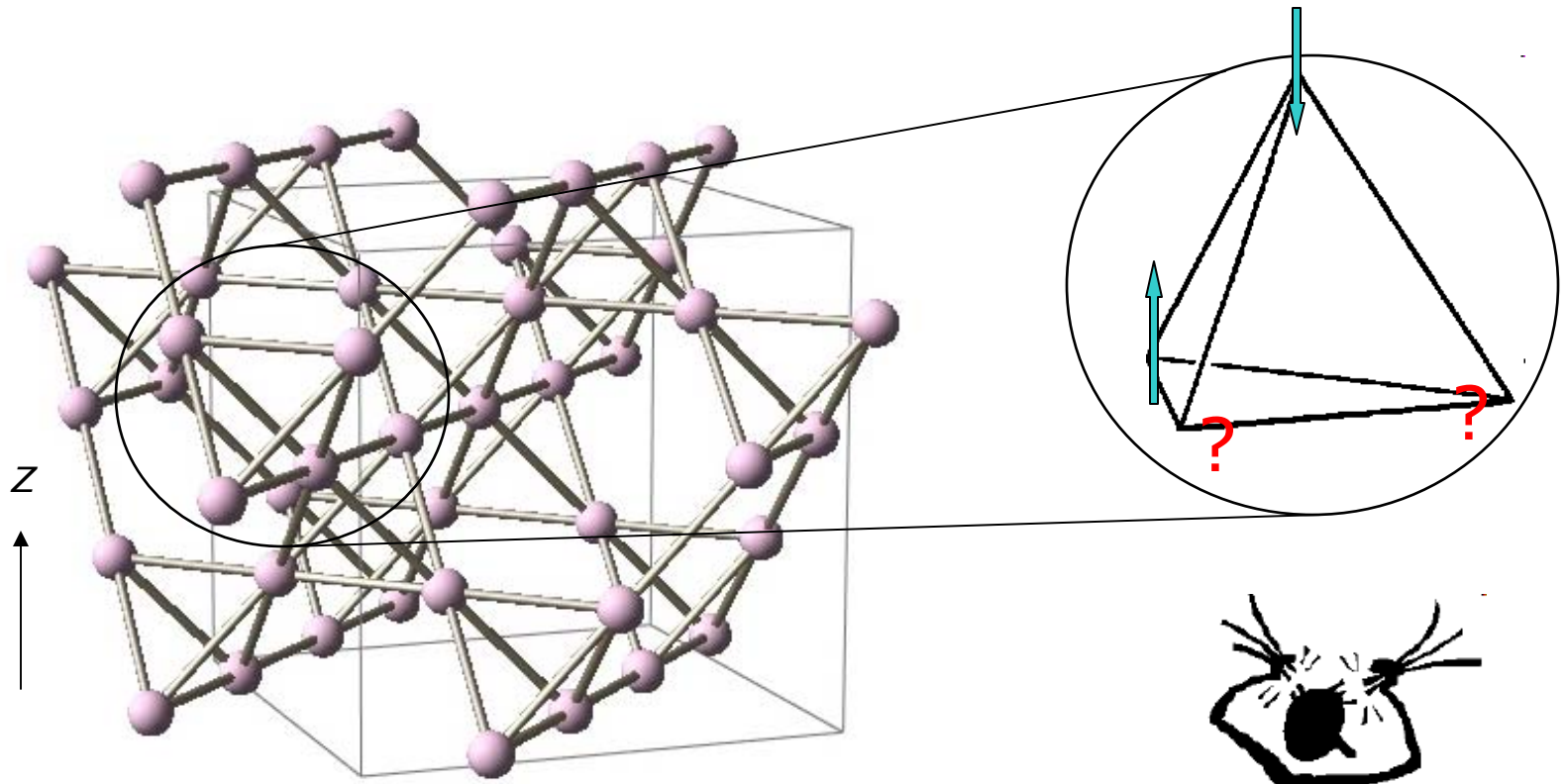
$$\chi = \frac{C}{T - \theta}$$



(b) antiferromagnetism

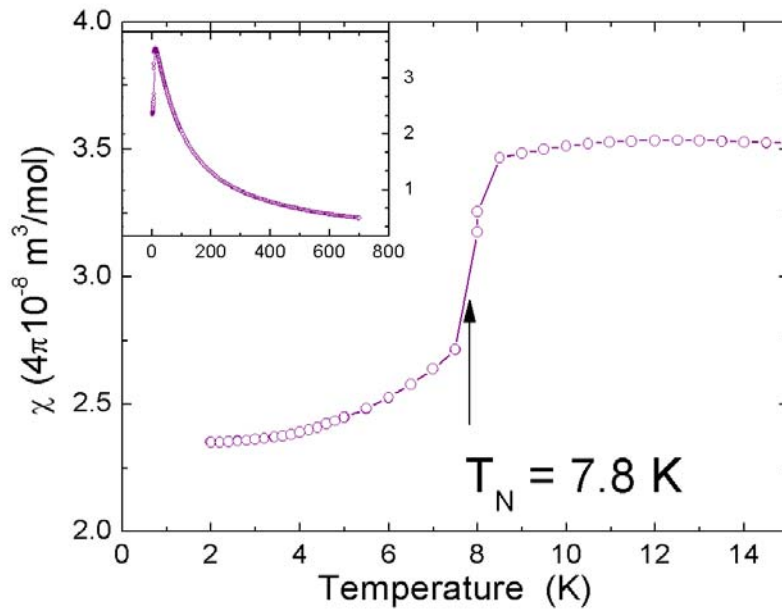


Frustrated Systems

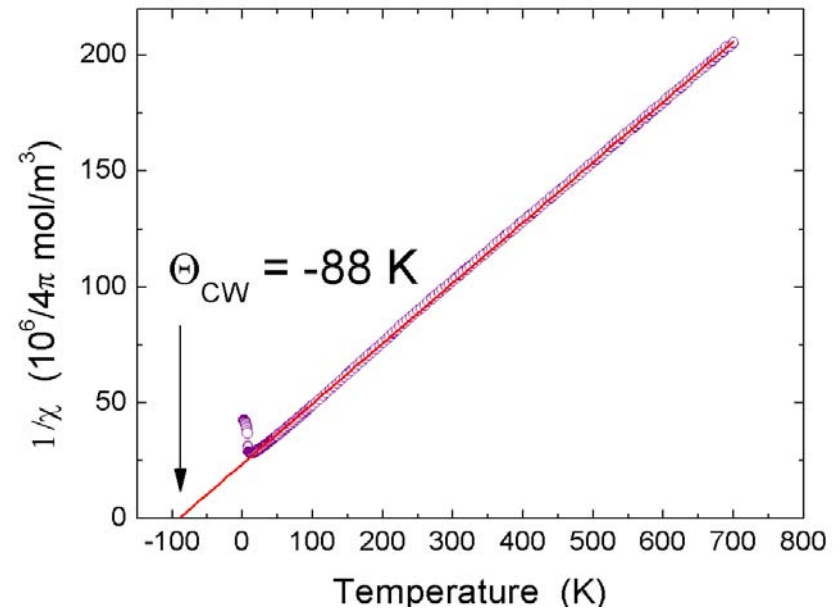


CdCr₂O₄

Magnetic Susceptibility

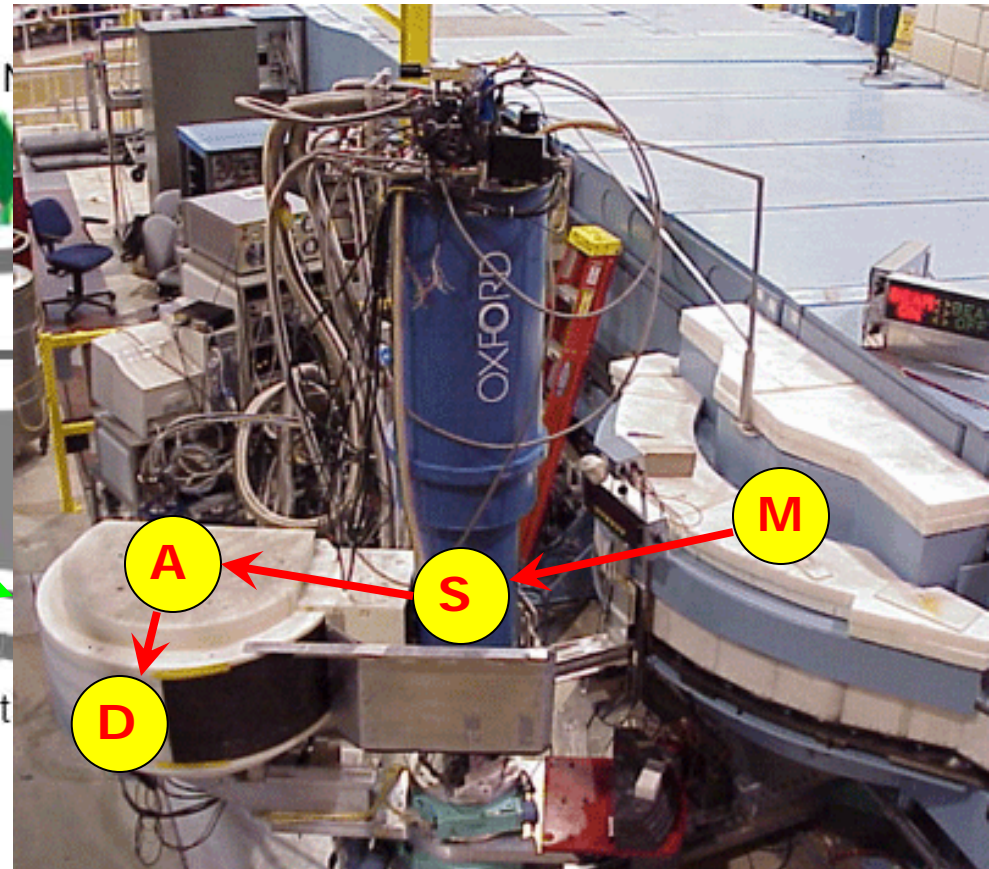
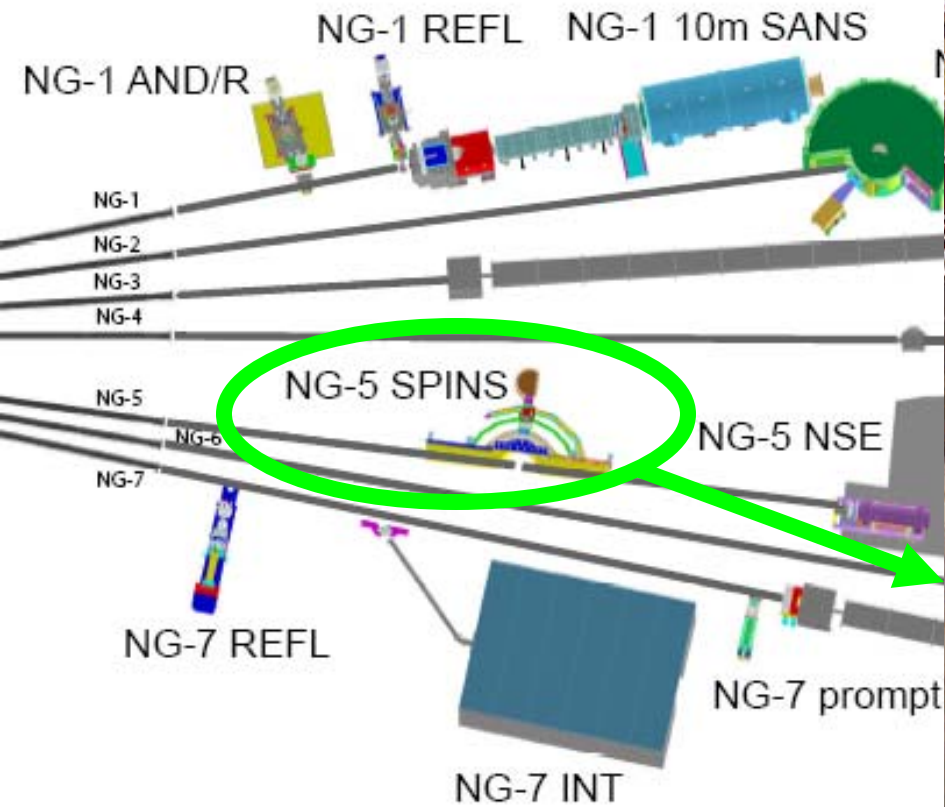


Inverse Magnetic Susceptibility

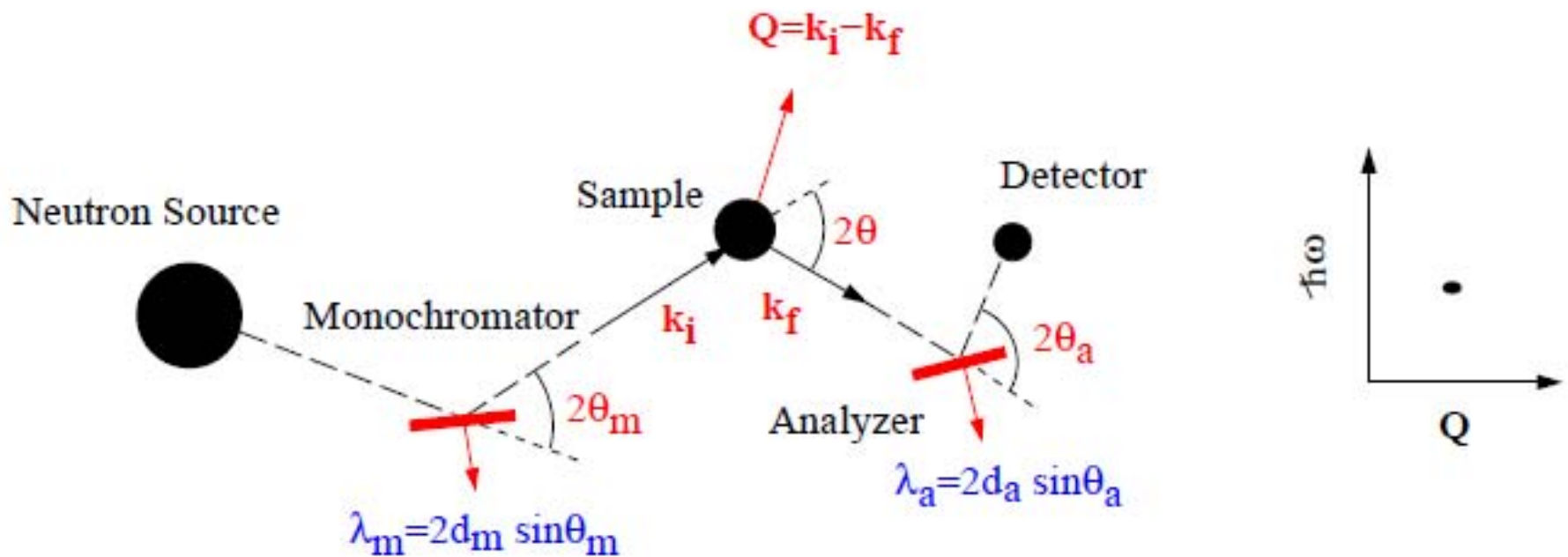


$$T_N \gg \Theta_{CW}$$

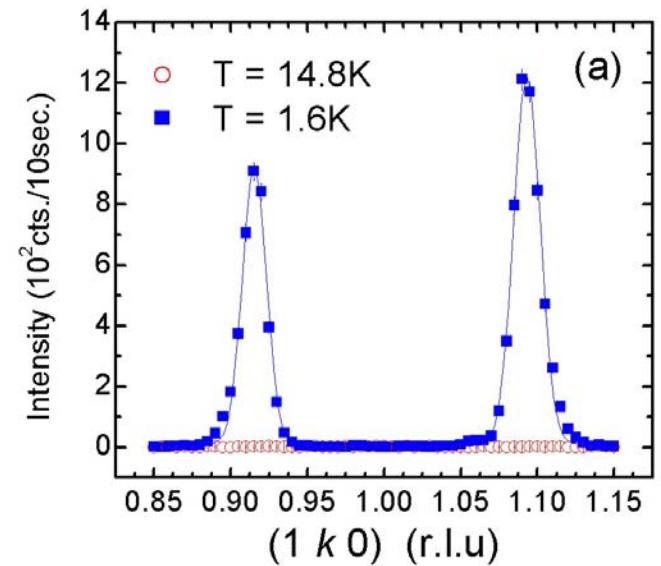
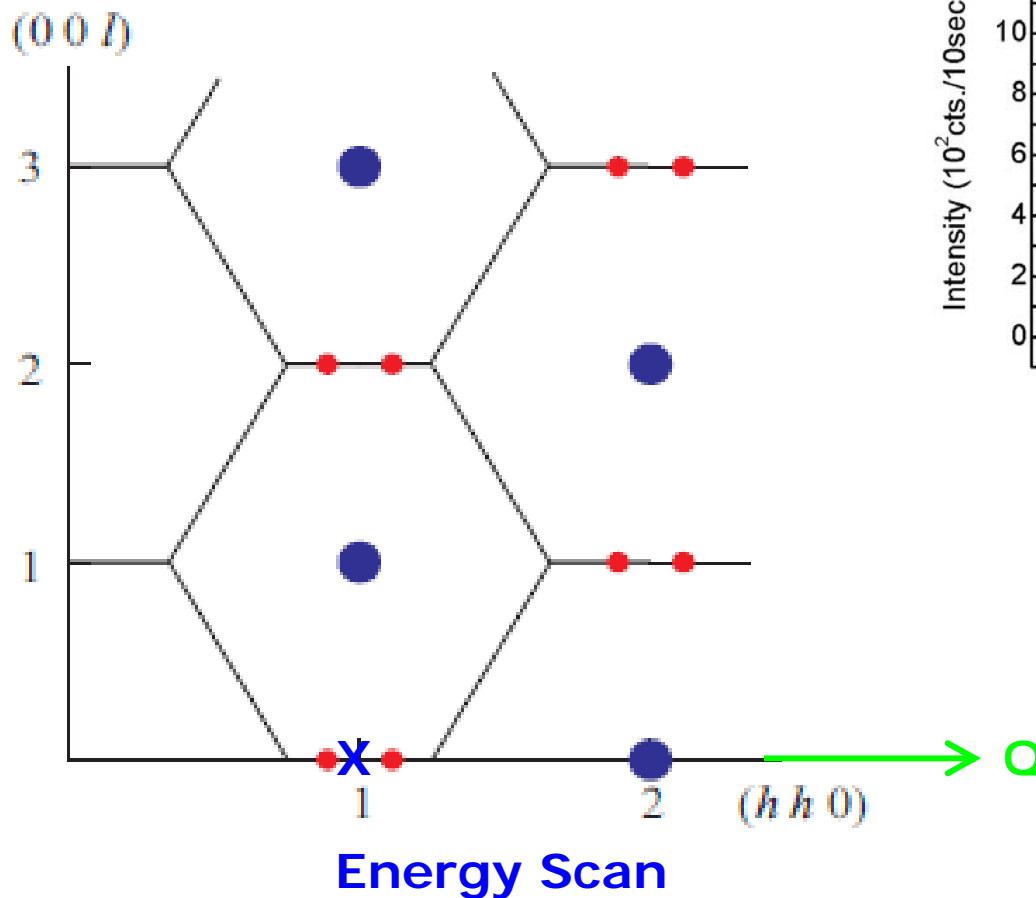
SPINS (Triple-Axis Spectrometer)



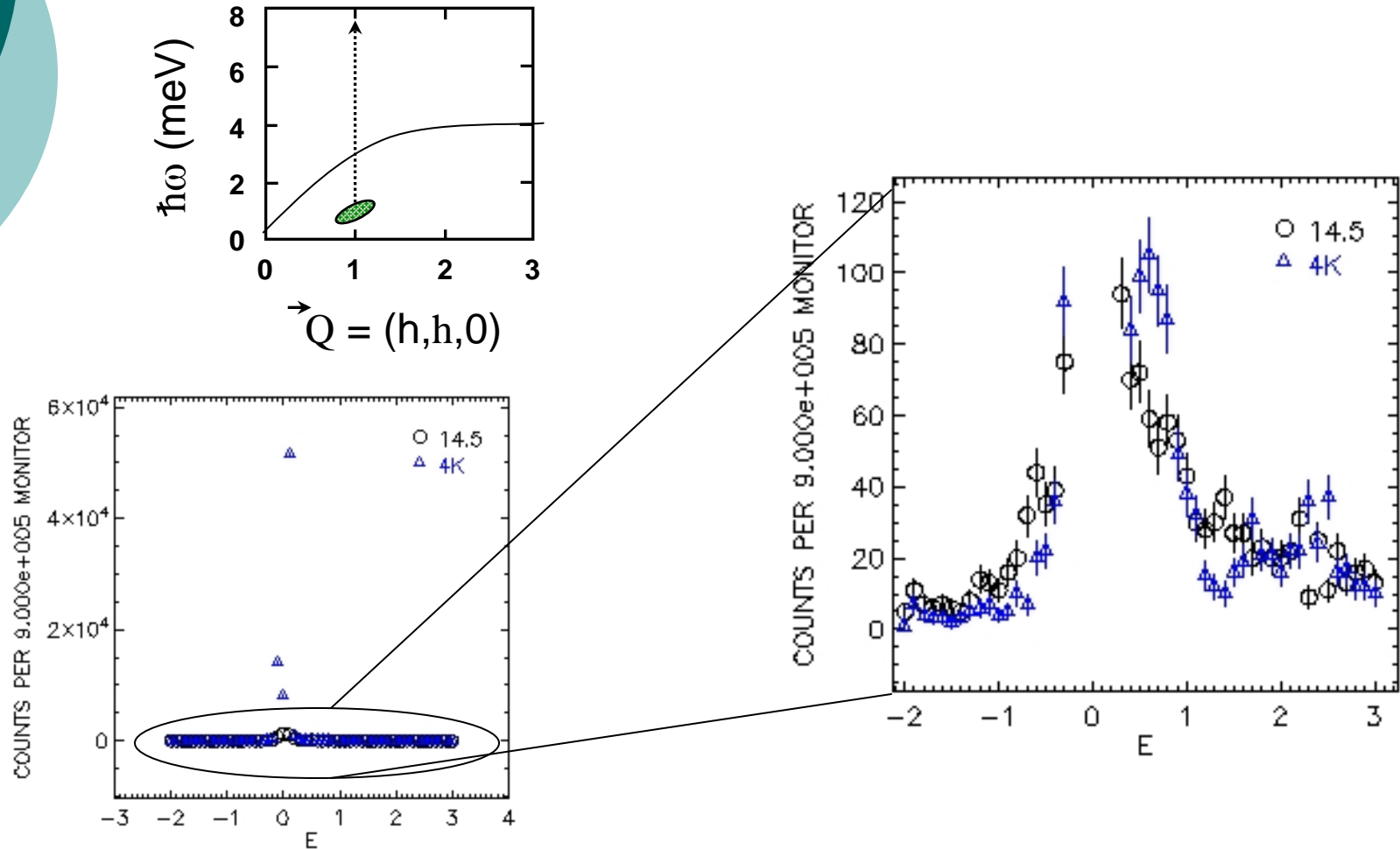
SPINS (Triple-Axis Spectrometer)



Data Collection

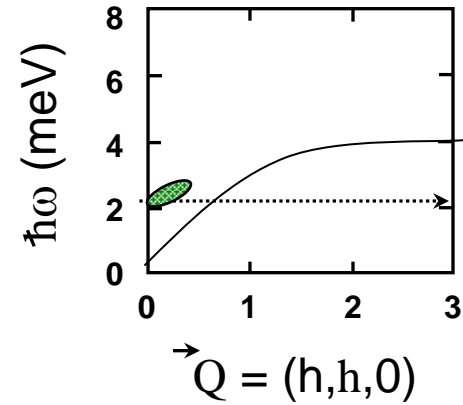
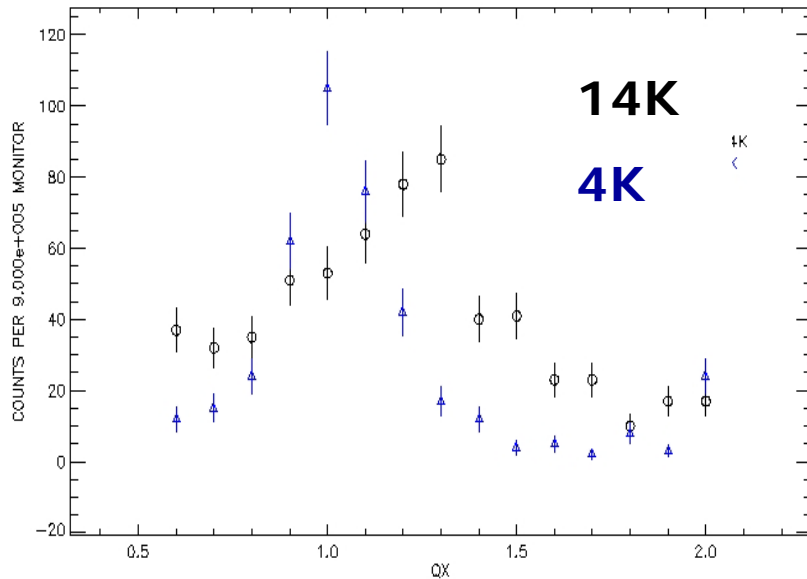


CdCr₂O₄: Energy scan at (1, 1, 0)

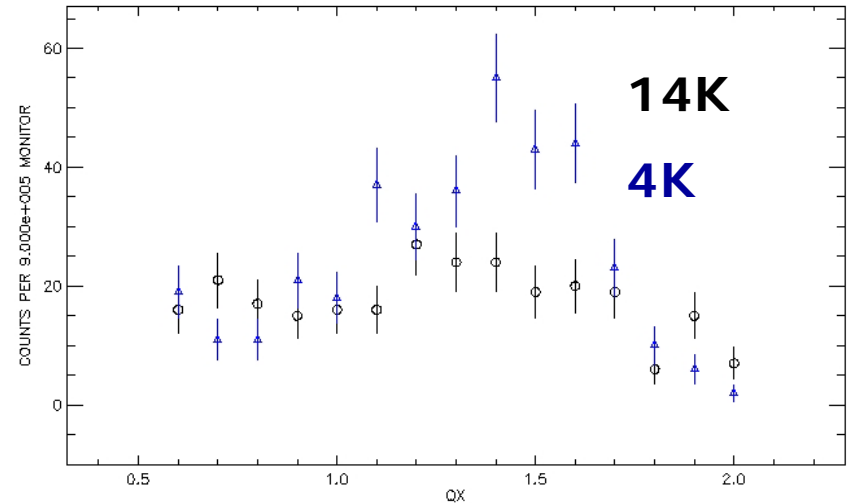


CdCr₂O₄: Q Scan 0.6 - 2.0 r.l.u.

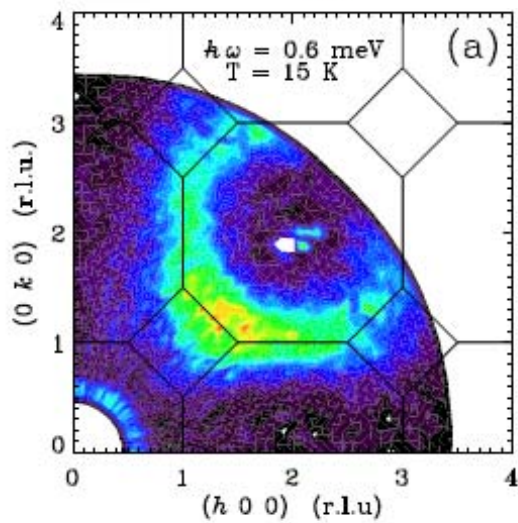
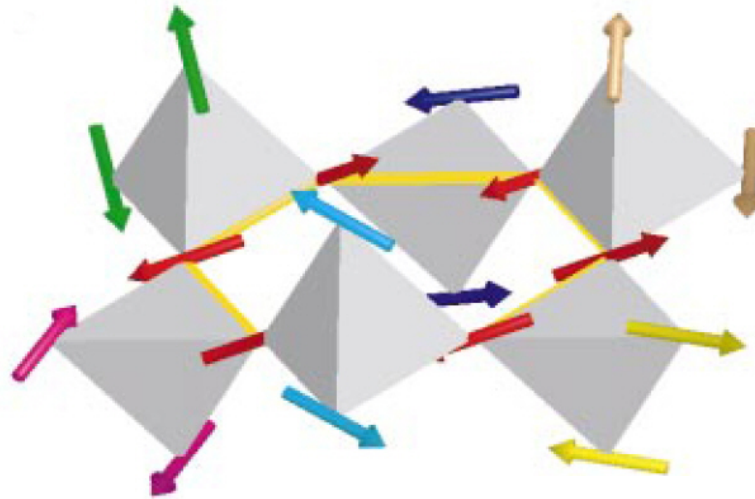
0.6 meV



2.1 meV



Punch Line



Thanks to...

- Sung Chang
- Deepak Singh
- Peter Gehring
- Yamali Hernandez
- David Mildner
- Julie Keyser

Group D

