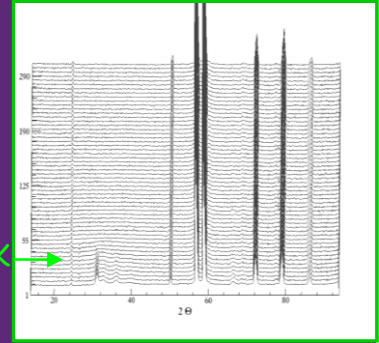
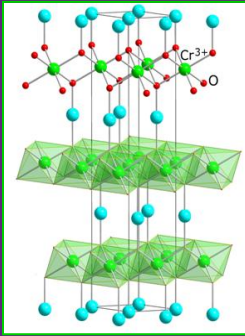


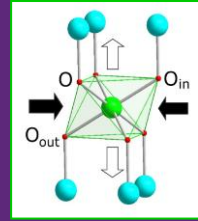
CuCrO₂ = Delafossite
 R-3m
 $a \approx 2.976(1) \text{ \AA}$
 $c \approx 17.104(1) \text{ \AA}$

caractère 2D
 (structure en couches)
 + réseau Cr³⁺ triangulaire

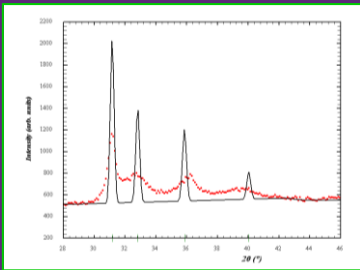


NPD-G4.1 (LLB)

Evolution de la structure avec la température :
 pas de transition structurale
 « Negative Thermal Expansion » de la couche [CrO₂]_∞ →

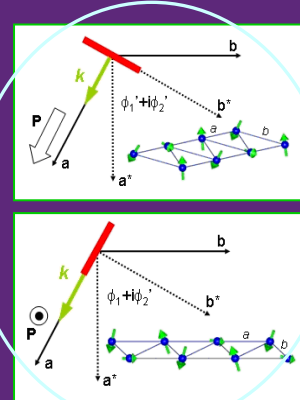


Comportement magnétique



← ordre 3D, mais pics magnétiques de faible intensité, larges et superposés...

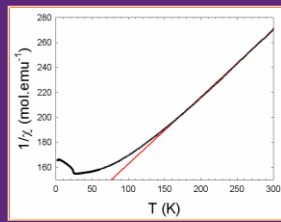
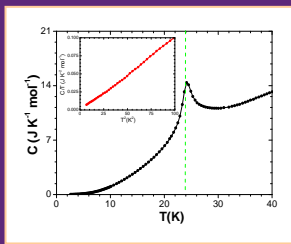
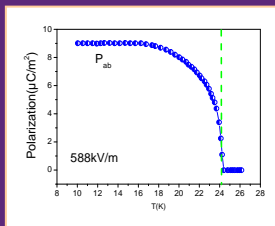
+ Analyse de symétrie : deux modèles



NPD-3T2 (I.I.R)

Corrélations avec P(T)

T_N=24K
 Cp(T)

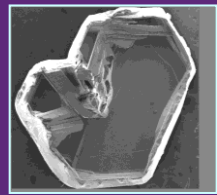
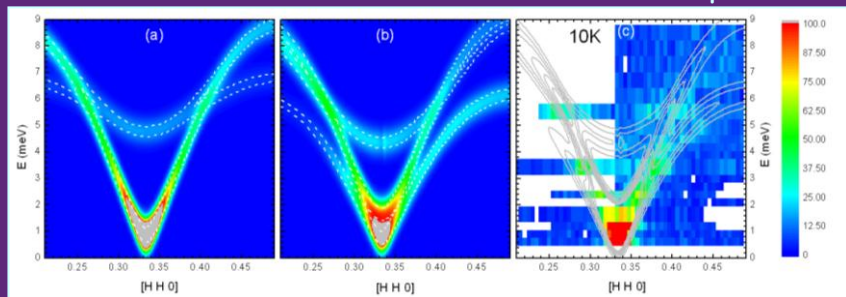


→ Phys. Rev. B 79, 014412 2009

pour discriminer

2T 4F2 (I.I.R) « inélastique »

caractérisation de monocristaux



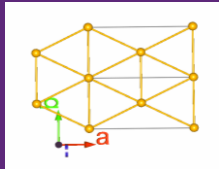
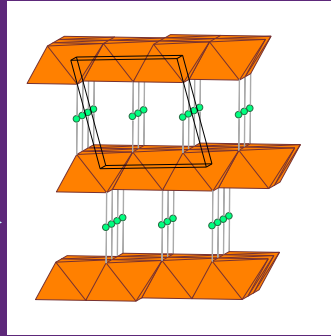
papier en cours ...

→ Phys. Rev. B 81, 104411 2010

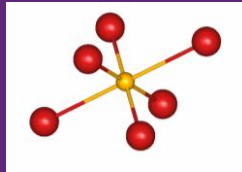
CuMnO₂

= Crednerite

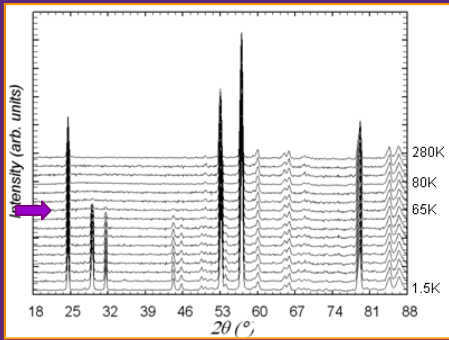
caractère 2D
(structure en couches)
réseau Mn³⁺ triangulaire
mais pas régulier



et octaèdre MnO₆ déformé
Mn³⁺ Jahn Teller

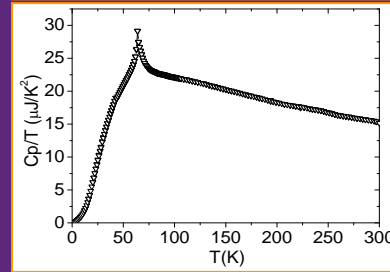
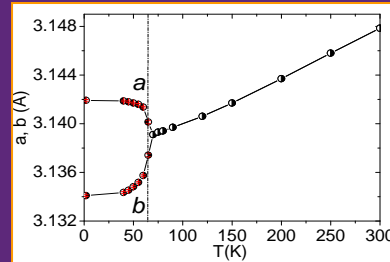


NPD-G4.1 (LLB)



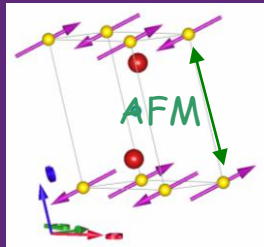
Effet de la température

300K	→	2K
C 2/m		P -1
5.5945 Å		3.1421 Å
2.8847 Å		3.1342 Å
5.8935 Å		5.8919 Å
103.97°		102.29°
		102.42°
		54.62°



Corrélations propriétés
structurales et magnétiques,
effet magnéto cristallin important

Substitutions: Cu_{1-x}Mn_{1-x}O₂



structure
magnétique
colinéaire

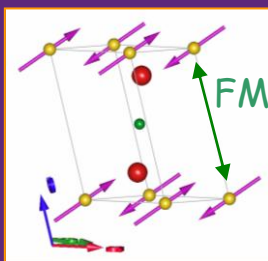
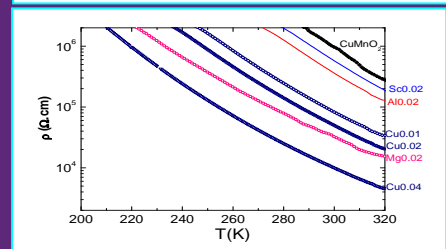
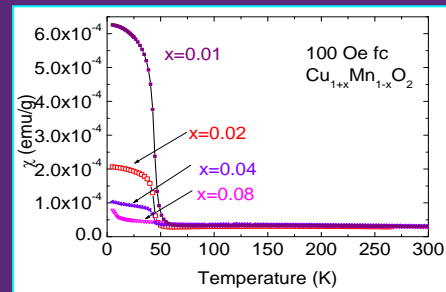
➡ Phys. Rev. B 80. 094410 2009

➡ Phys. Rev. B 82. 094404 2010

Effet important sur les propriétés

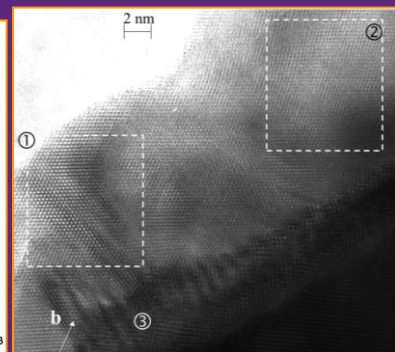
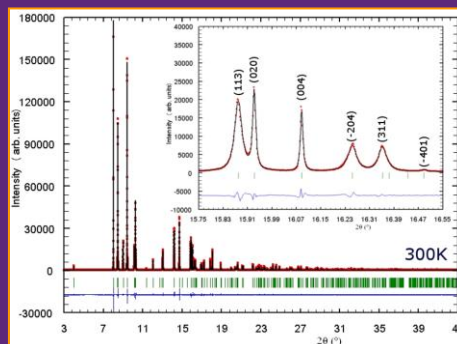
et sur la structure magnétique:
mêmes couplages dans les plans
mais pas suivant c

ID31-Synchrotron (ESRF)



Cu_{1.04}Mn_{0.96}O₂

➡ Chem. Mater. 23. 85 2011



Contrastes perturbés en ME