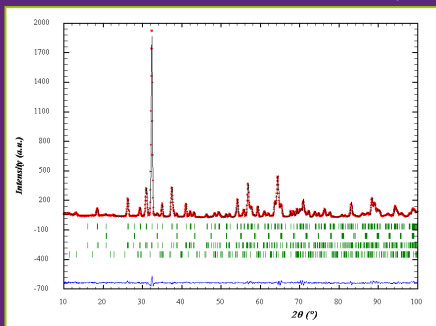


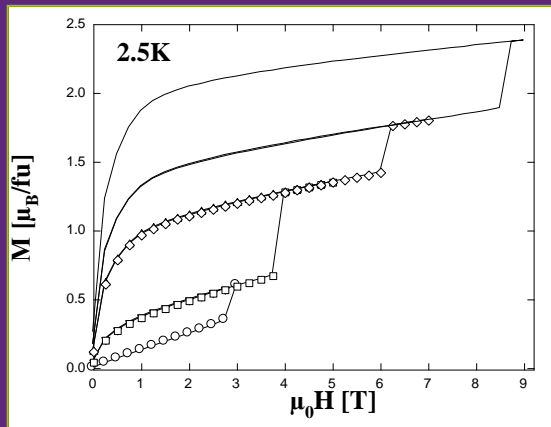
NPD-G41 (LLB)

f(T)

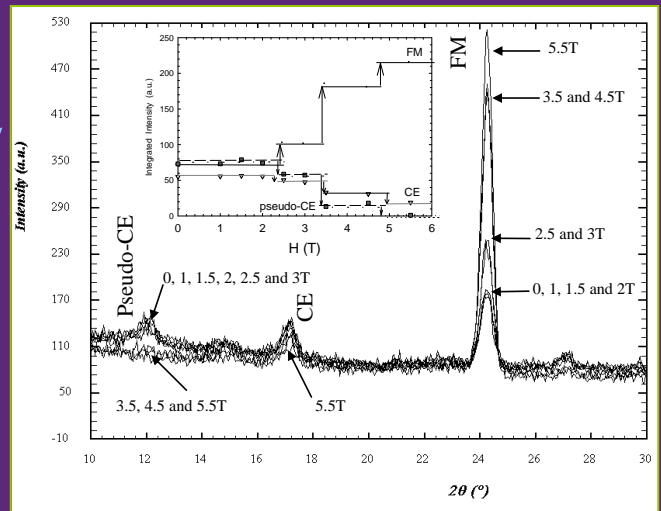


NPD-3T2 (LLB)

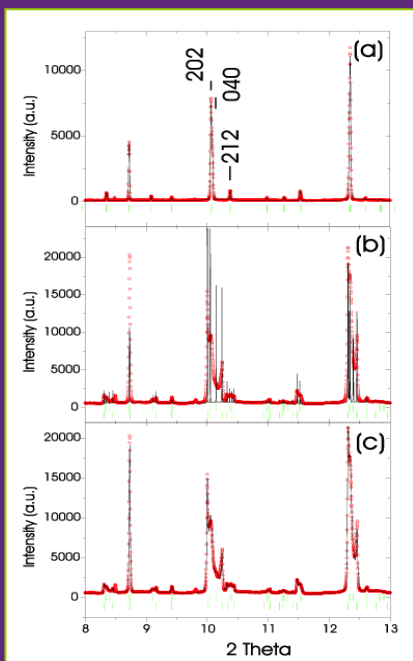
10K



Origine des marches d'aimantation observées ?

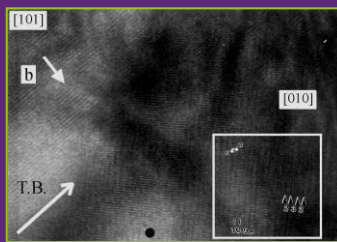
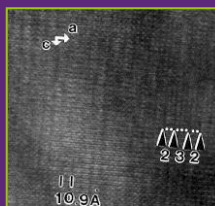
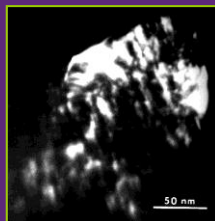


Caractérisations structurales et magnétiques



ID31-Synchrotron (ESRF)

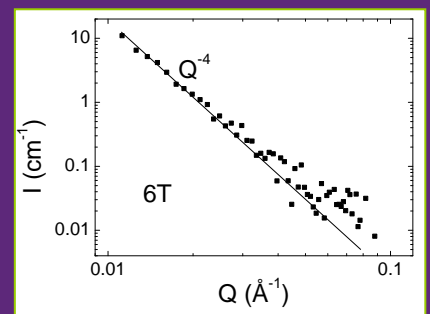
f(T)



ME f(T)

NPD-D2B (ILL)

f(H)

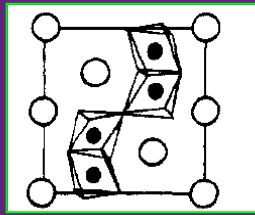


SANS-PAXY (LLB) 6T, 2K

→ Etat basse température complexe : plusieurs formes magnétiques et structurales en compétition, contraintes importantes

→ Phys. Rev. B 68, 224412 (2003)
J. S. S. Chem. 178, 1652 (2005)

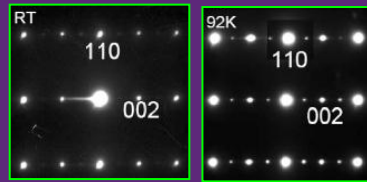
SrMnO₃



Structure 4H

PRB 72, 172407 (2005):

Raman: Observation d'une transition structurale?



Transition confirmée en microscopie électronique

NPD-HRPD (ISIS)

Résolution de la structure :

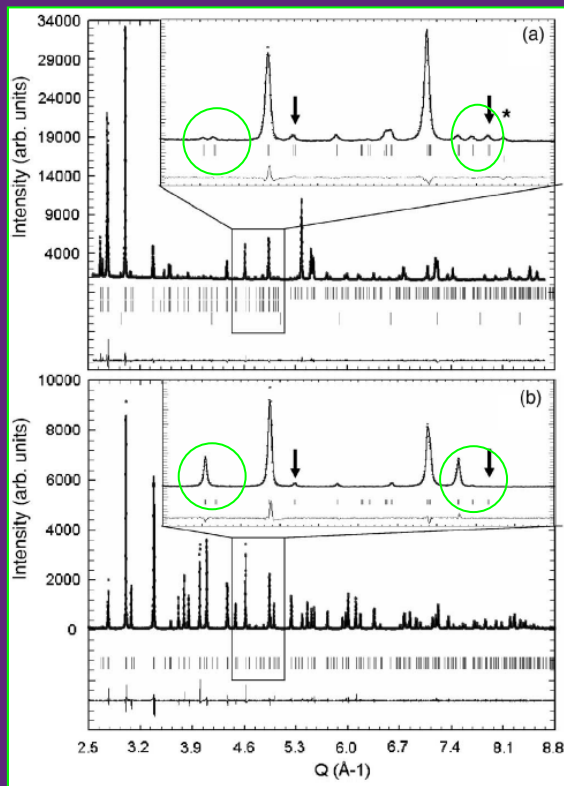
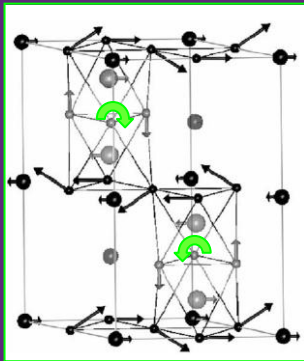
T=350 K: P6₃/mmm

$a_h=b_h=5.461(1) \text{ \AA}$ $c=9.093(2) \text{ \AA}$

T=100 K: C222₁

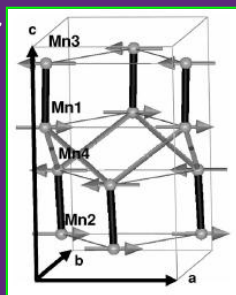
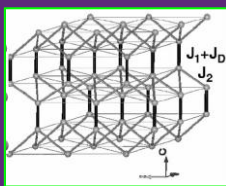
$a=5.4435(1) \text{ \AA}$ $b \approx \sqrt{3}b_h=9.4211(2)$

$c=9.0630(1) \text{ \AA}$

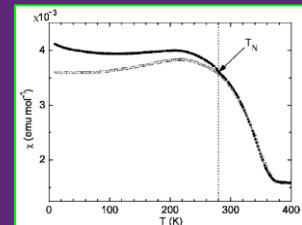
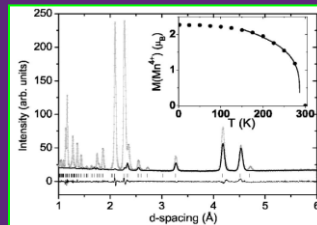


ID31-Synchrotron (ESRF)

+ Magnétisme :



J_1 : F- (90°)SE
 J_D : AF-Direct
 J_2 : AF-(180°)SE



➡ Phys. Rev. B 75, 104417 (2007):

Structural phase transition and magnetism in hexagonal SrMnO₃ by magnetization measurements and by electron, x-ray, and neutron diffraction studies