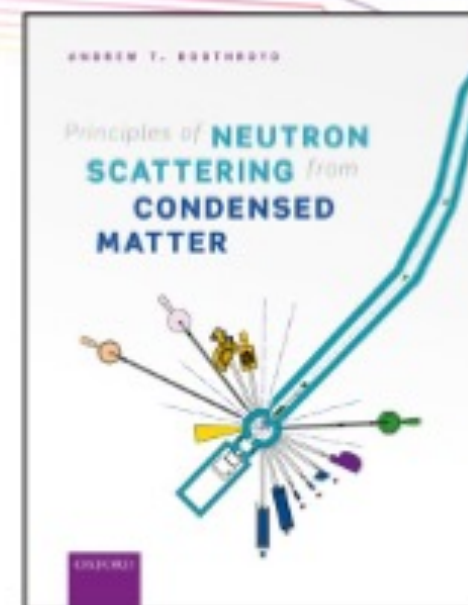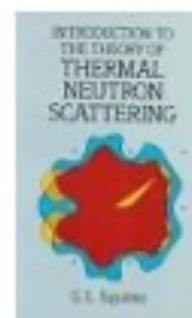# Key references:

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Polarized neutrons

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Software

Crystal Field Levels

Andrew Boothroyd's spectre:
https://groups.physics.ox.ac.uk/Boothroyd/software.htm
PyCrystalField:
https://github.com/asche1/PyCrystalField
McPhase:
https://mcphase.software.informer.com/#google_vignette
https://pypi.org/project/libMcPhase/
Duc Le's code in Matlab
https://github.com/mducle/racah

Linear spin wave theory

Spin〜
S. Toth and B. Lake
https://spinw.org
J. Phys.: Condens. Matter **27** (2015) 166002
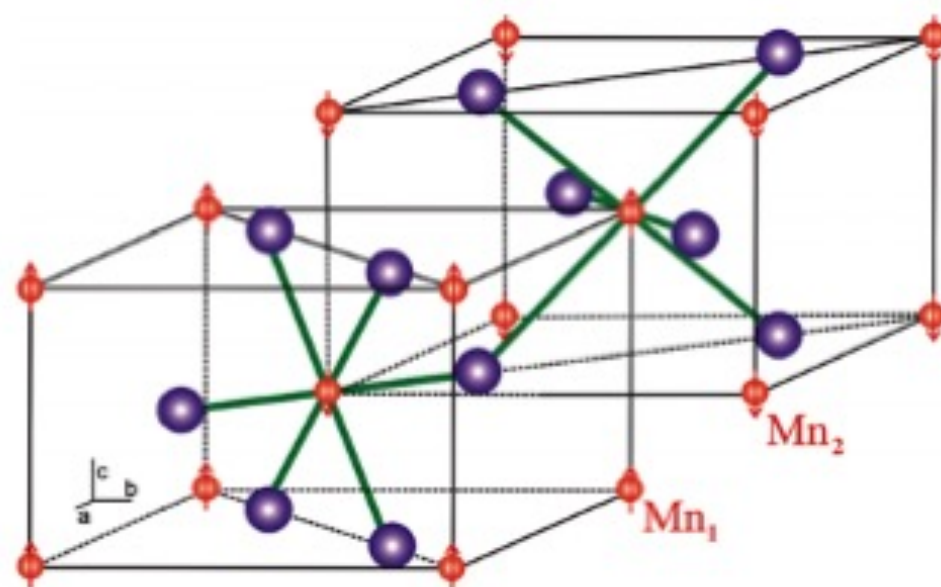
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MnF$_2$

Tetragonal structure

$\uparrow$ **M∥c**

- Nuclear peak
- Magnetic peak

001 $I_{001}=0$ (M∥Q)
Magnetic

Nuclear

101

$I_{100} \neq 0$ (M⊥Q)
100
Magnetic

h00