

Figure 3. Magnetic specific heat as a function of temperature for  $DyPO_4$ . The points (o) represent experimental results, the solid line represents the results of a calculation based on high- and low-temperature series expansions with one adjustable constant. After Ref. 17.

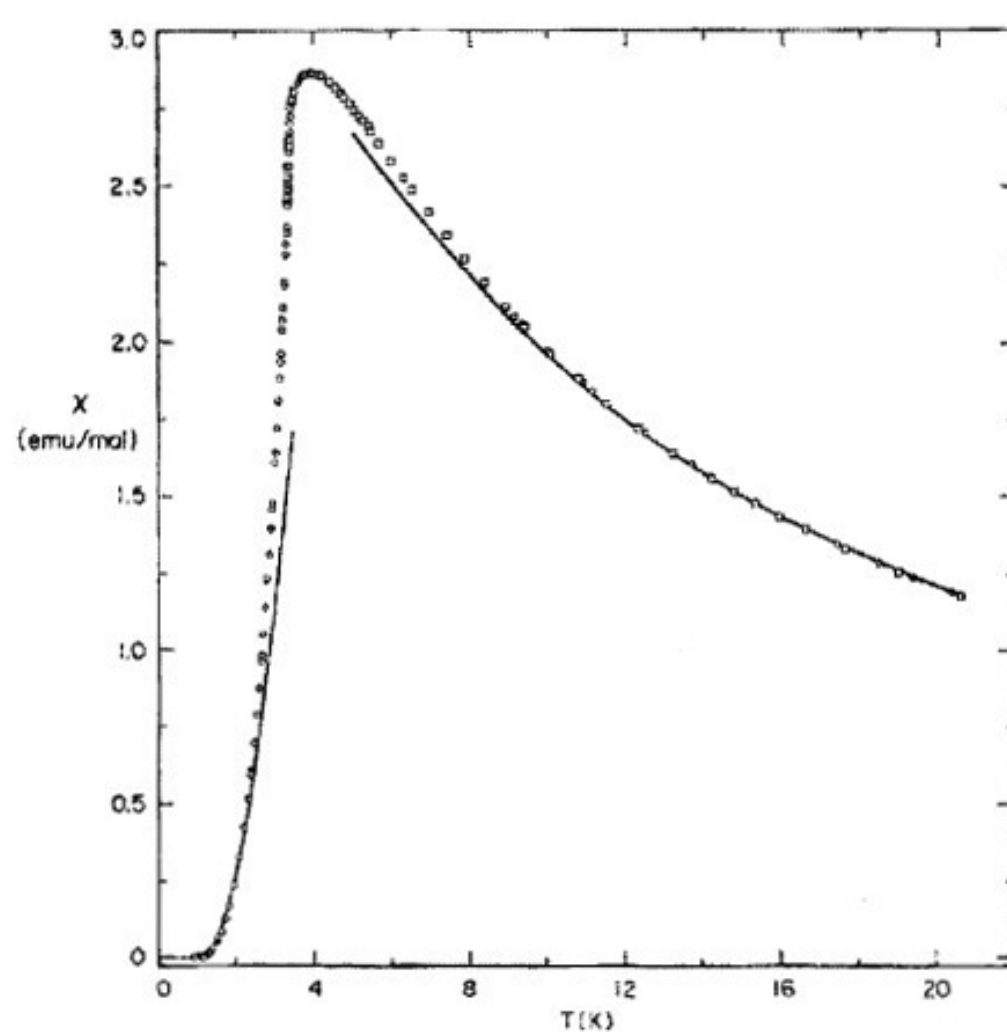


Figure 4. Magnetic susceptibility as a function of temperature for  **$DyPO_4$** . The points (o) represent experimental results; the solid line represents the results of a calculation based on high- and low-temperature series expansions with one adjustable constant. After Ref. 17.

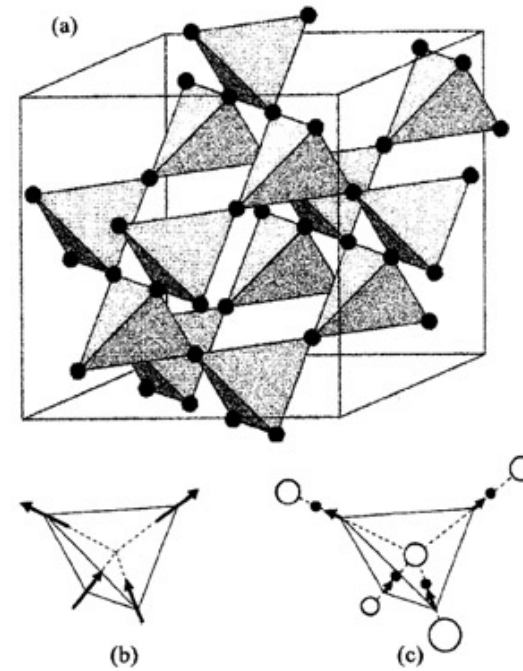
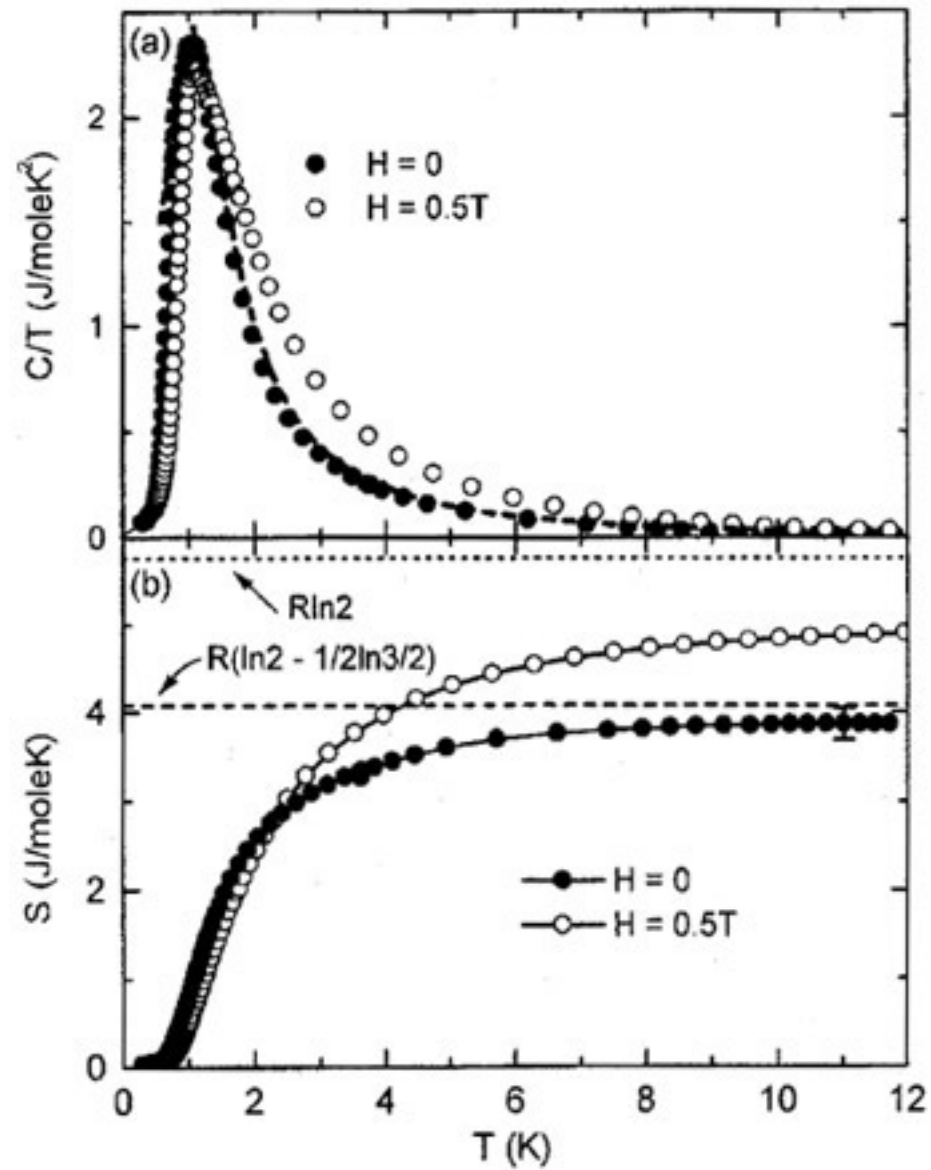
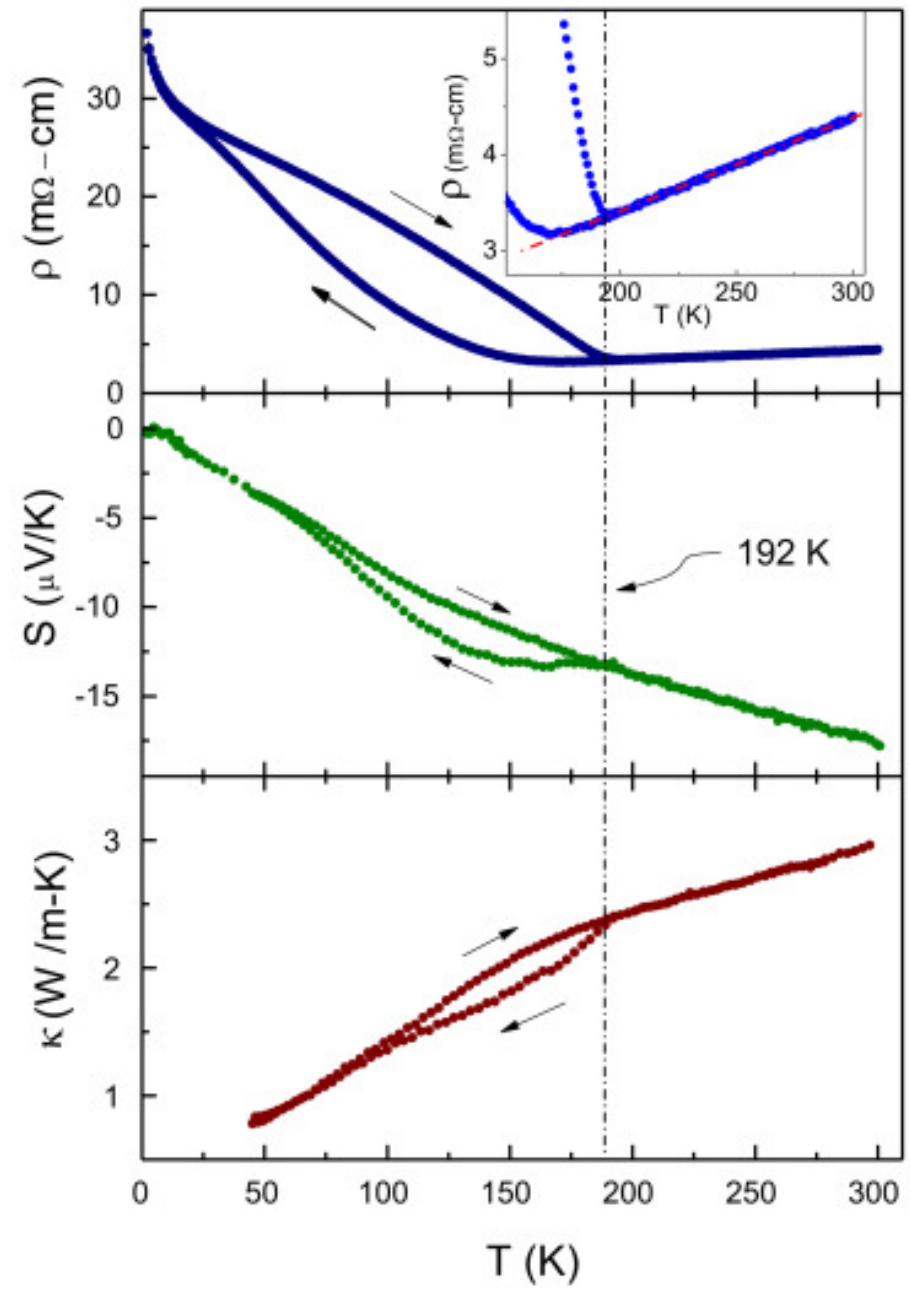
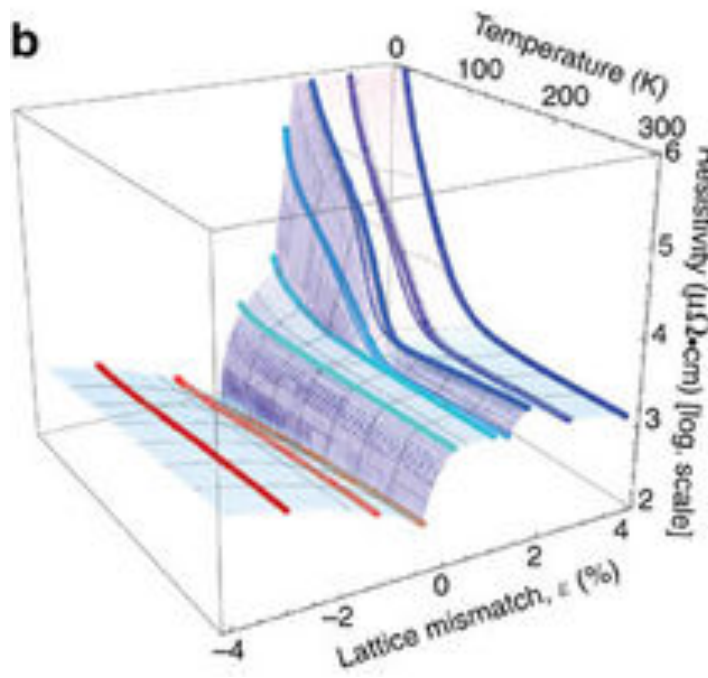
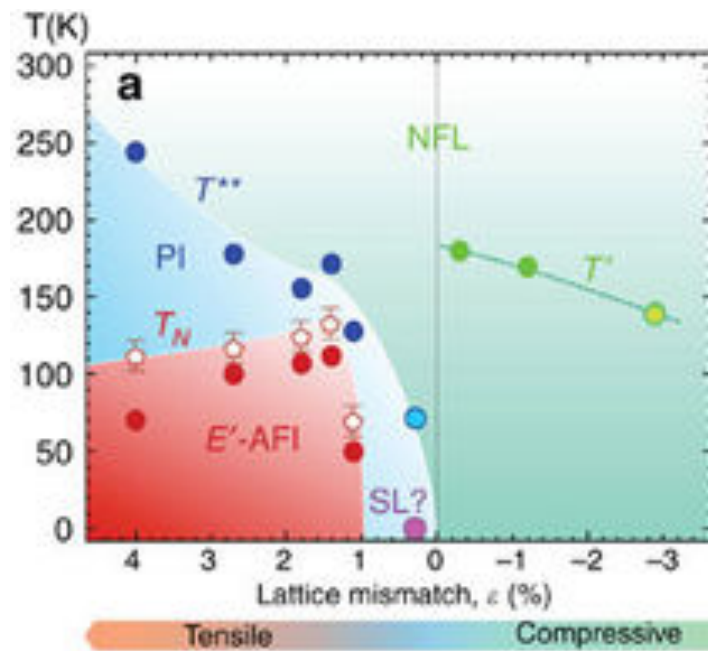
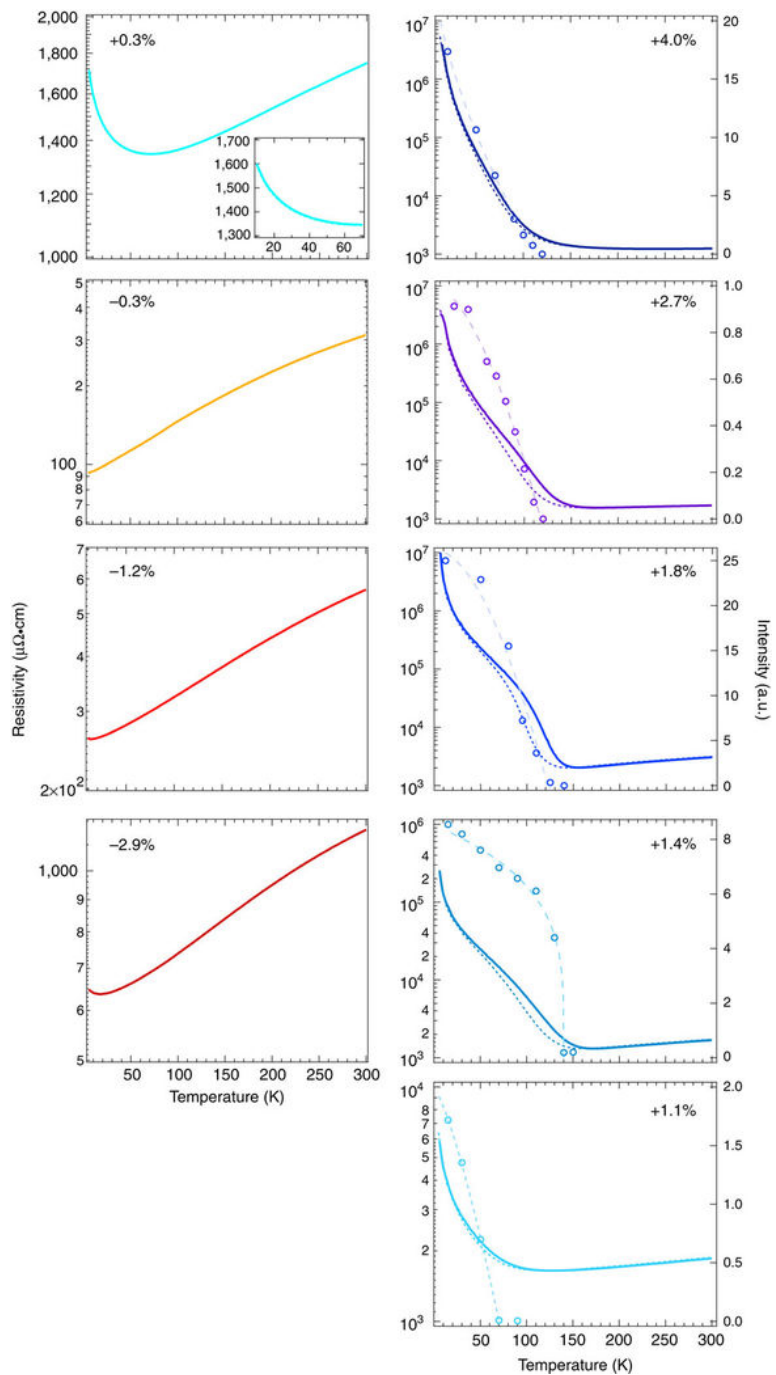


Figure 18. Specific heat and entropy of  $\text{Dy}_2\text{Ti}_2\text{O}_7$  and Pauling's prediction for ice. (a) Specific heat divided by temperature for  $H=0$  (o) and  $H=0.5T$  ( $\bullet$ ). The dashed line is a Monte Carlo simulation of the zero-field  $C(T)/T$ . (b) Entropy of  $\text{Dy}_2\text{Ti}_2\text{O}_7$  found by integrating  $C/T$  from 0.2 to 14K. The value of  $R(\ln 2 - 1/2 \ln 3/2)$  is that found for ice ( $I_h$ ), and  $\ln 2$  is the usual full spin entropy. After Ref. 71.



1<sup>st</sup> order phase transition  
in NdNiO<sub>3</sub> crystal



Strain controlled 1<sup>st</sup> order phase transition in ultra thin films of NdNiO3