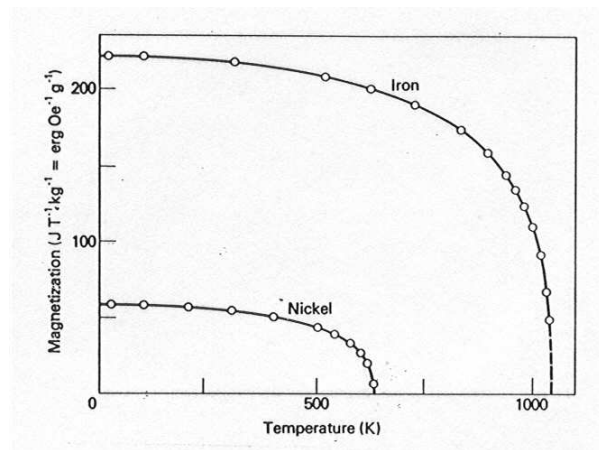


Thermodynamics of a Ferromagnet [ts15]

Materials with ions that have permanent electronic magnetic moments may be paramagnetic, ferromagnetic, antiferromagnetic, or exhibit some other kind of magnetic ordering.

In ferromagnetic materials there exists a continuous transition from the paramagnetic phase to the ferromagnetic phase when the system is cooled through the Curie temperature T_c .

Spontaneous magnetization of nickel and iron:



Heat capacity of nickel:

- (a) total heat capacity, (b) contribution of lattice vibrations
(c) electronic contribution, (d) magnetic contribution.

