

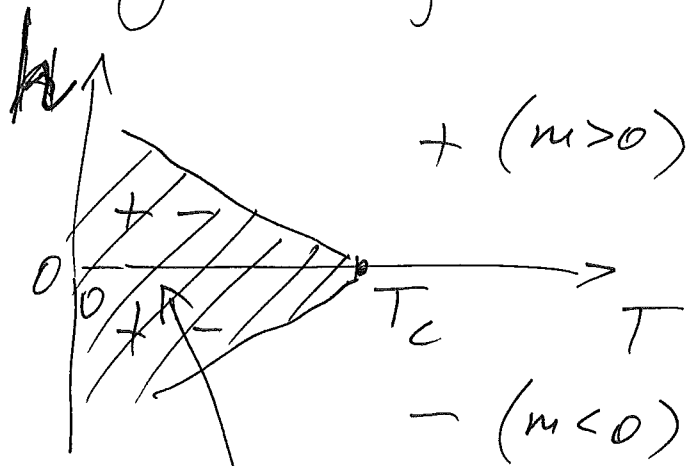
Problems 5

(1) In Landau theory:

$$F(m, a, h) = \frac{a}{2} m^2 + \frac{b}{2} m^4 - mh,$$

$a = \alpha(T - T_c)$

the diagram of states (T, h) is



The region of hysteresis where m may be $+$ or $-$ depending on prehistory

Find the boundaries of this region:

$$h = h(T) \text{ (or } h = h(a))$$