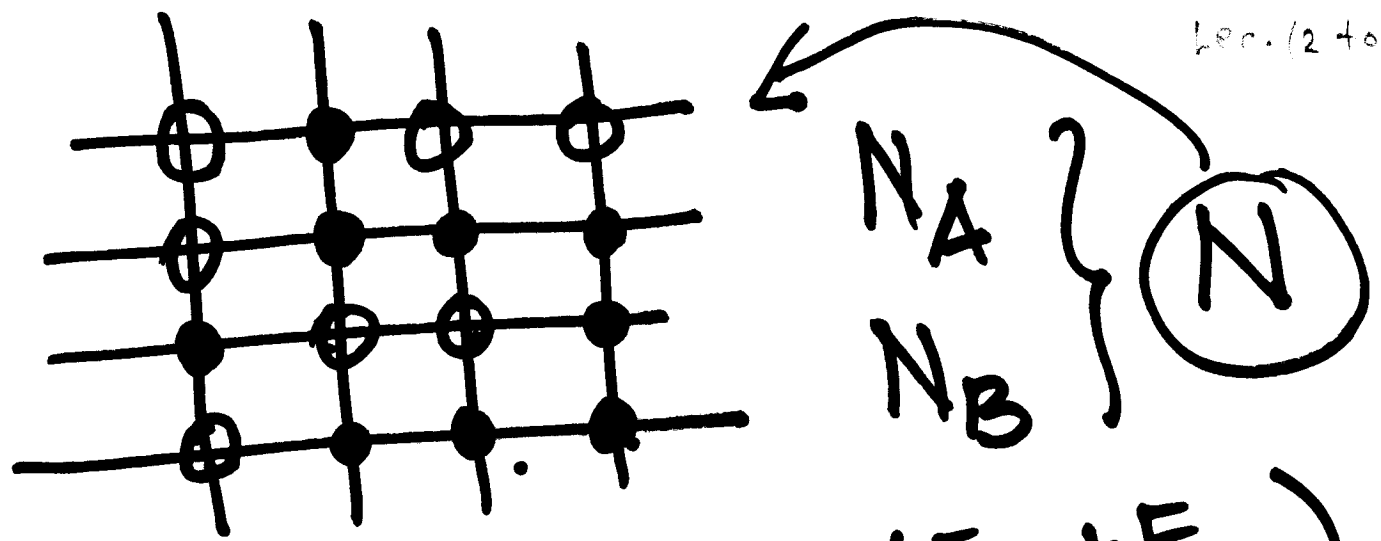


15/11/2015  
Date: 15/11/2015  
Lec. (2 to 5)



$$\epsilon = \epsilon_{AB} - \frac{1}{2}(E_{AA} + E_{BB})$$

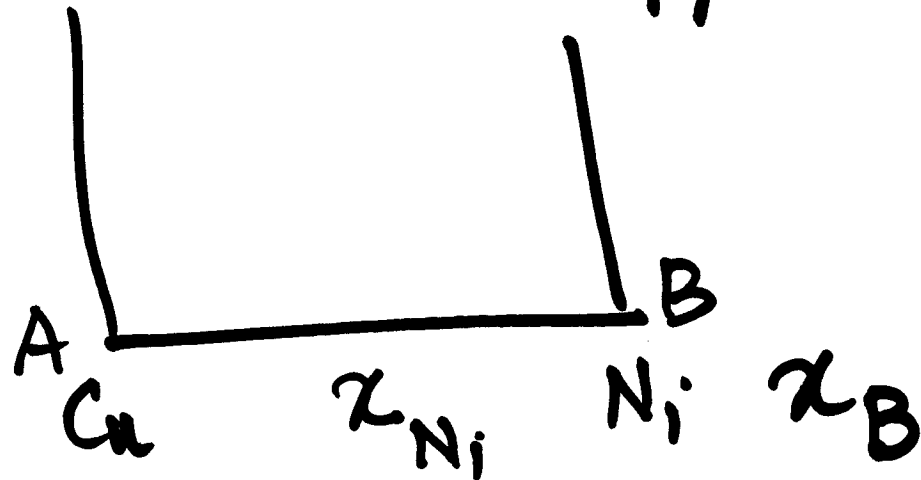
$$\Delta G^{mix} = \Delta H^{mix} - T \Delta S^{mix} \quad \frac{N_B}{N}$$

$$\Delta G^{mix} = \Omega X_B(1-X_B) + RT \left[ X_B \ln X_B + (1-X_B) \ln(1-X_B) \right]$$

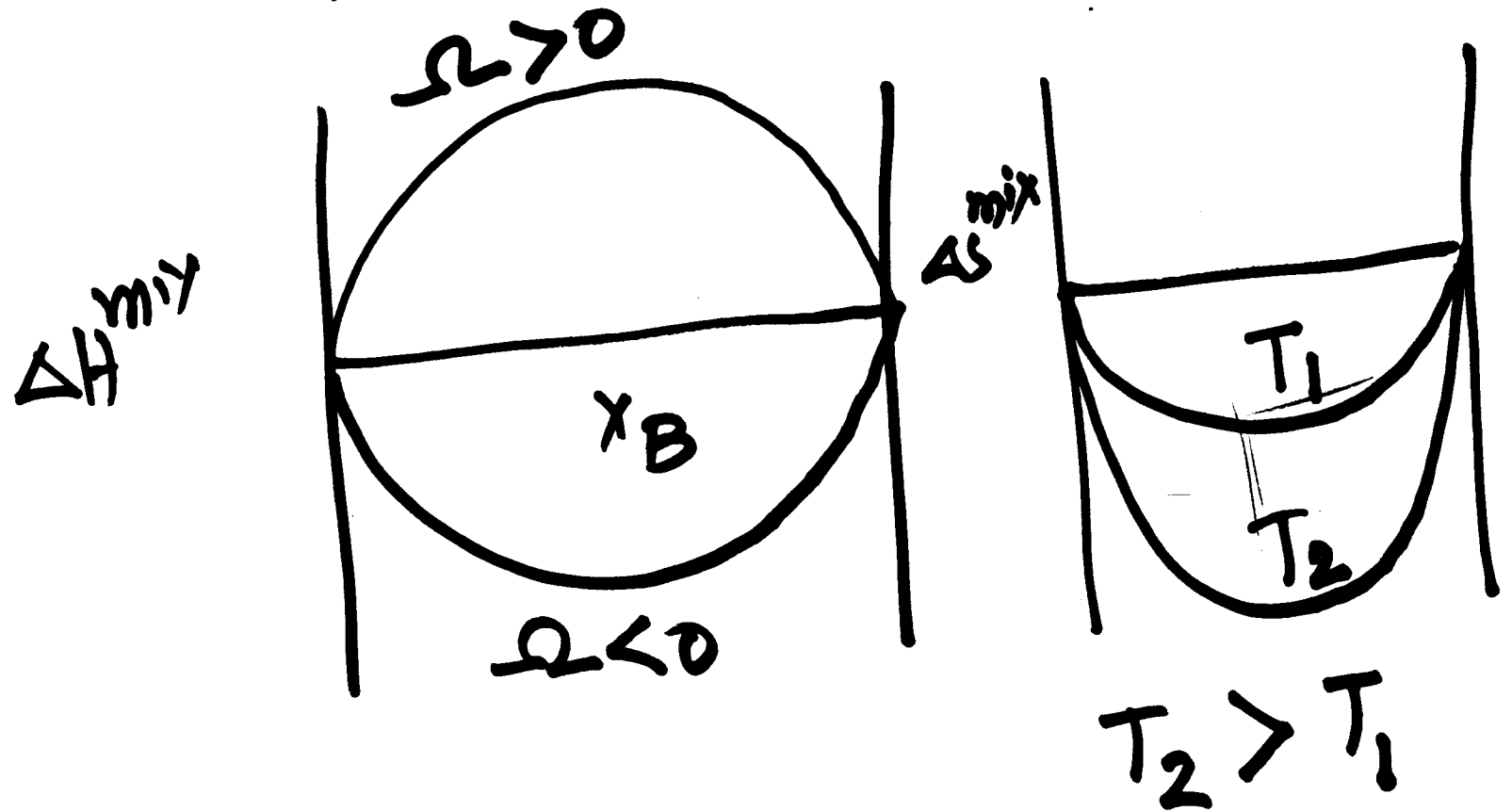
$$\Delta G^{mix} = \Omega x_B(1-x_B) + RT [x_B \ln x_B + (1-x_B) \ln(1-x_B)]$$

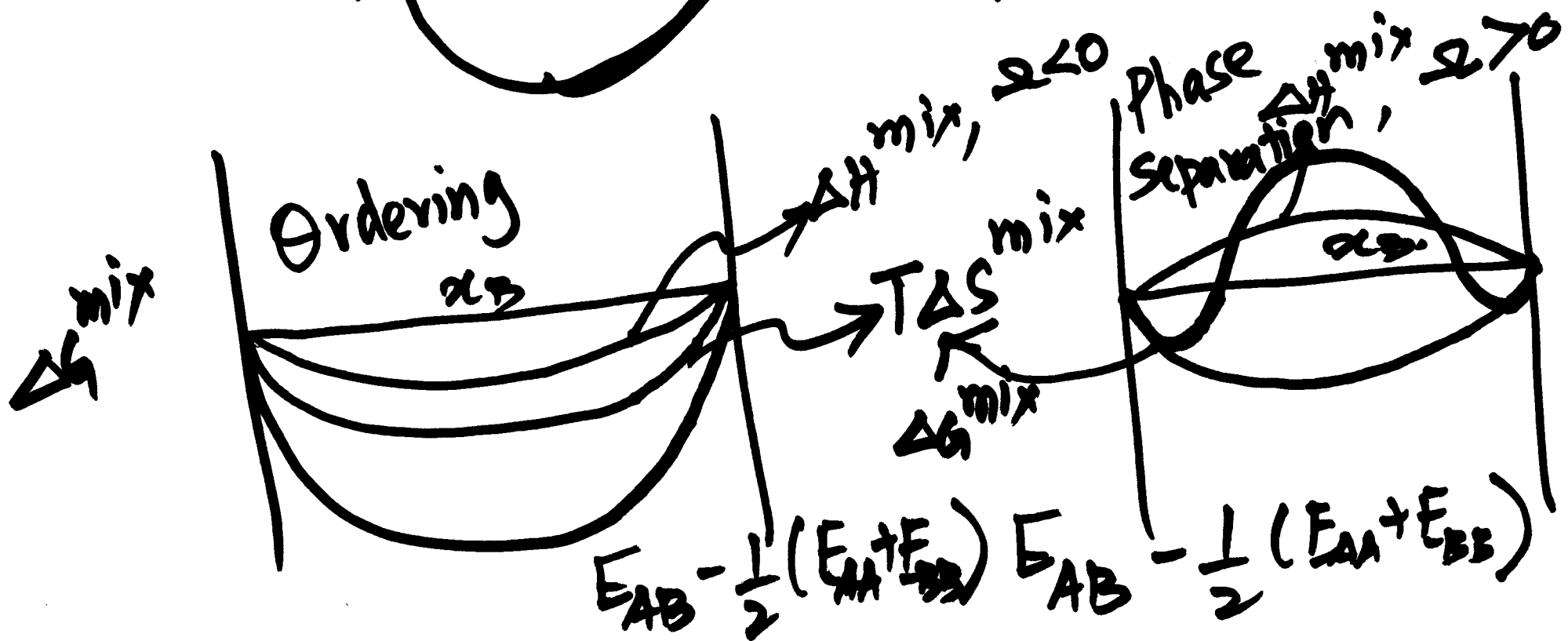
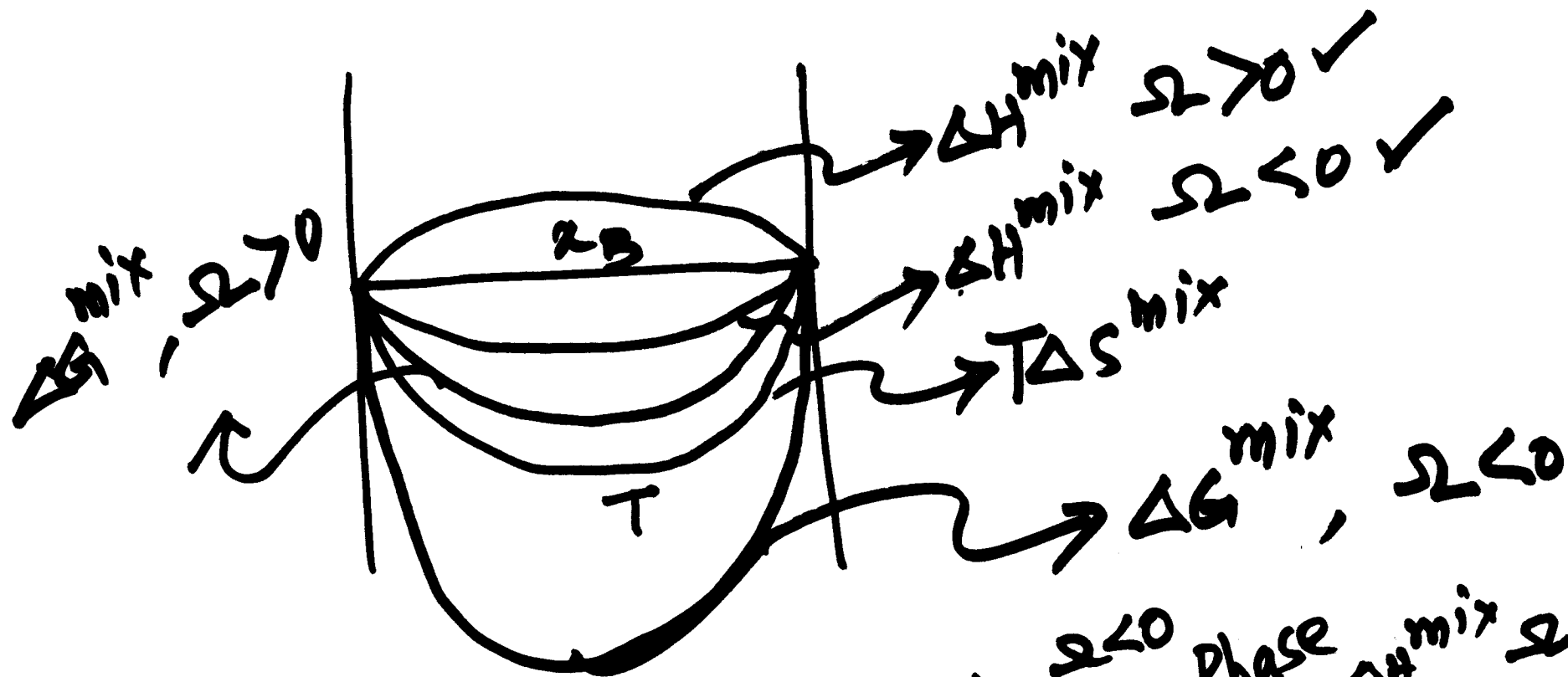
$$= \Omega x_A(1-x_A) + RT [x_A \ln x_A + (1-x_A) \ln(1-x_A)]$$

$$x_A + x_B = 1 \quad \frac{N_A + N_B}{N} = \frac{N_A}{N} + \frac{N_B}{N} = 1$$



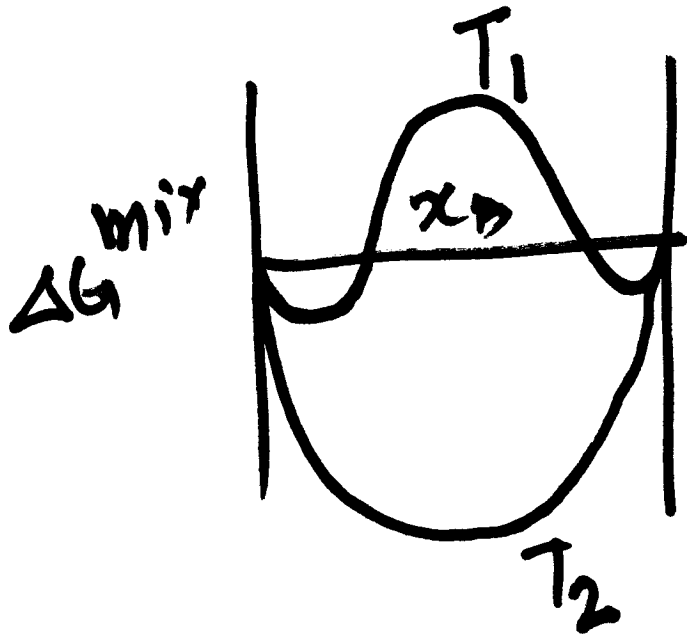
$$\Delta G^{\text{mix}} = \underbrace{\Omega X_B(1-X_B)}_{\Delta H^{\text{mix}}} + RT \left[ X_B \ln X_B + (1-X_B) \ln(1-X_B) \right]$$





$$\Delta G^{\text{mix}} = \Omega x_B(1-x_B) + RT [x_B \ln x_B + (1-x_B) \ln(1-x_B)]$$

$> 0$

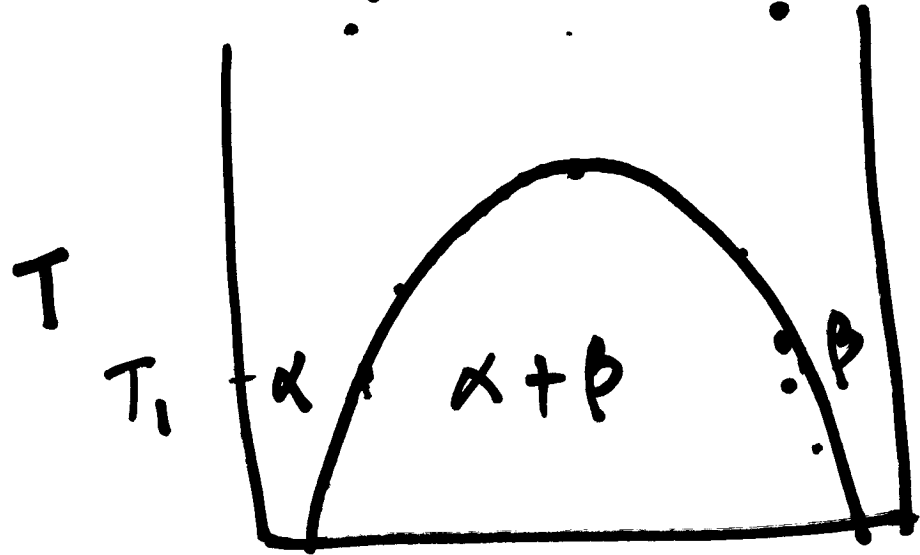
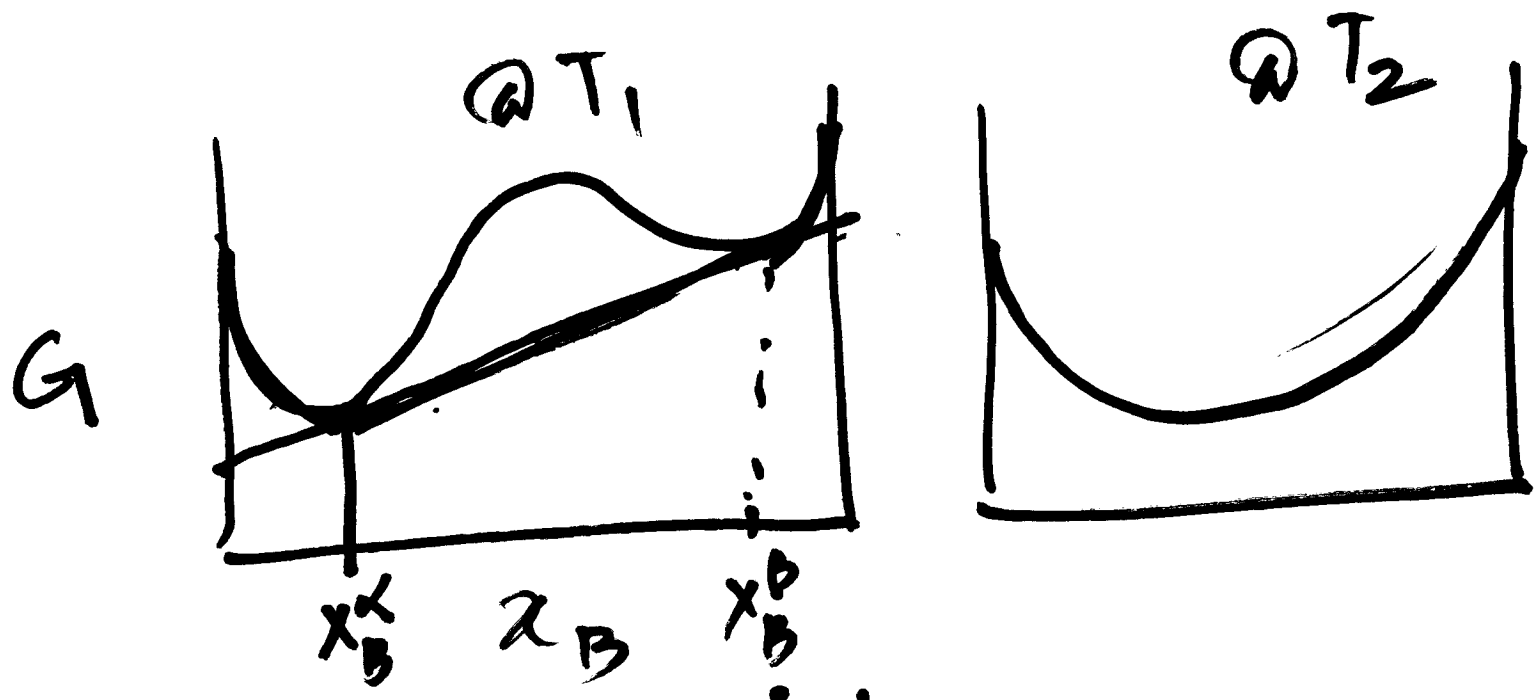


$$G = x_B G_B + (1-x_B) G_A$$

$$+ \Omega x_B(1-x_B) + RT [x_B \ln x_B + (1-x_B) \ln(1-x_B)]$$

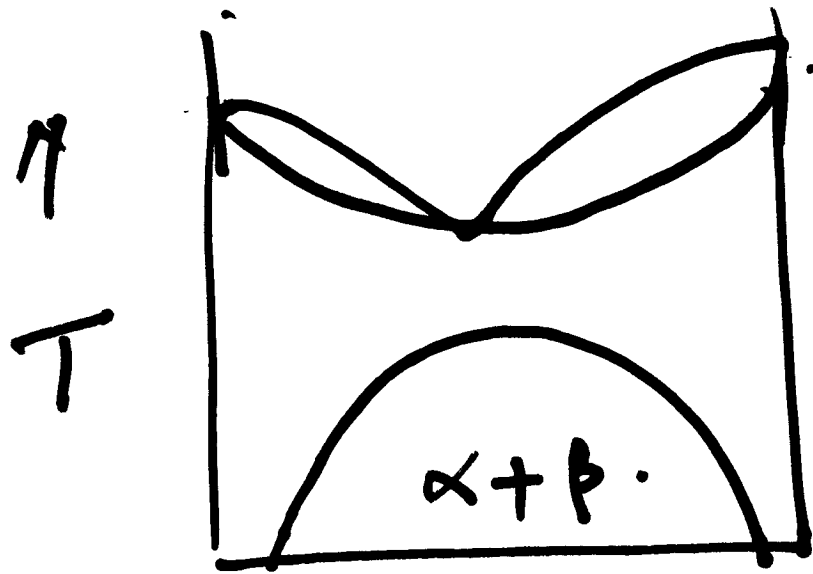
$T_2 > T_1$





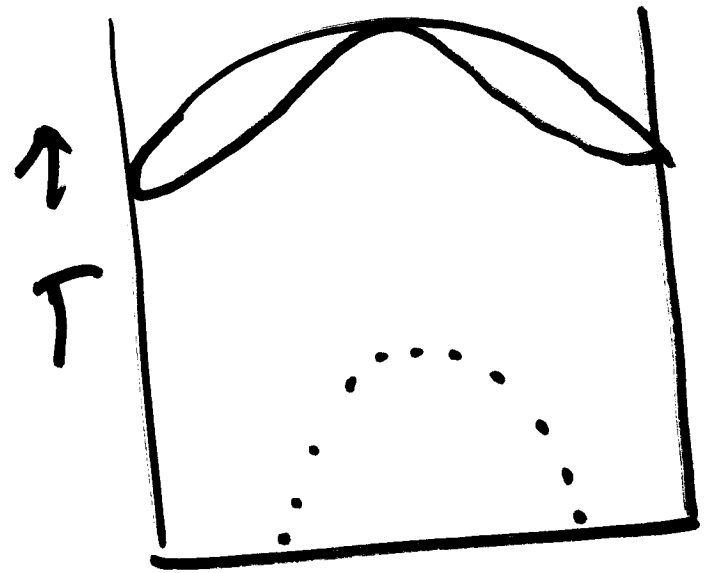
Phase diagram

$x_B$  Phase Separated.



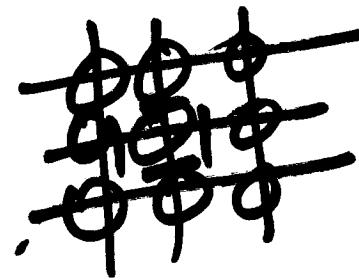
$x_B \rightarrow$

$E_{AA}$

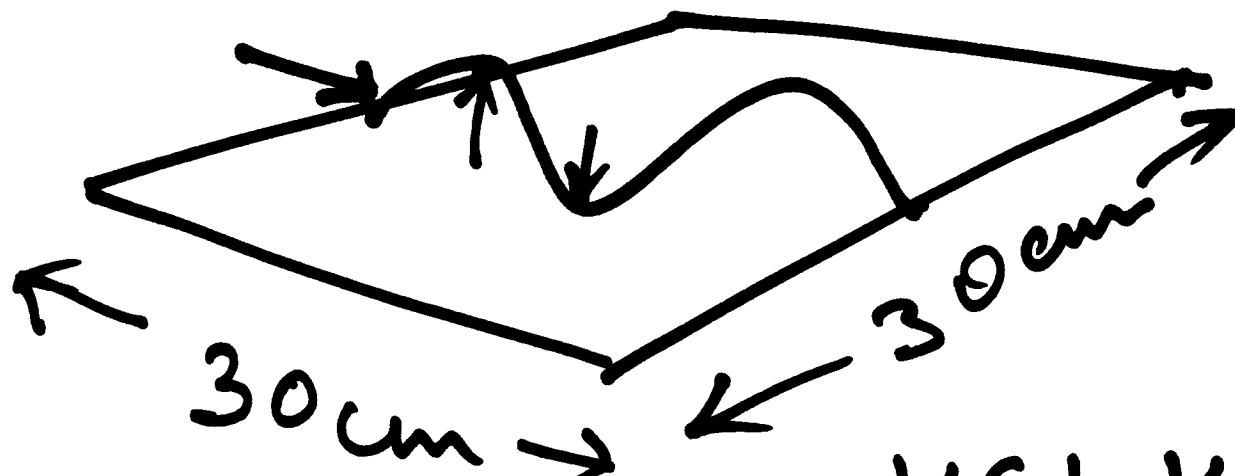


$x_B \rightarrow$

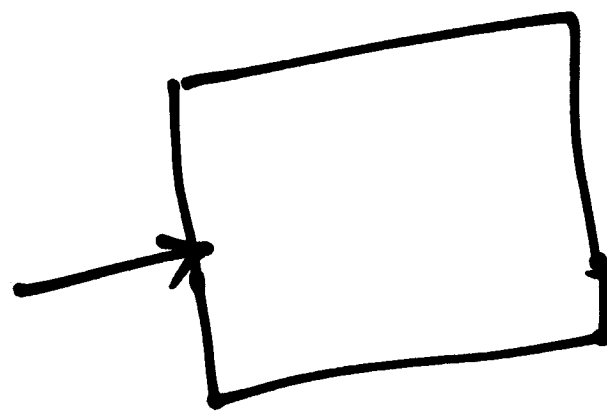
Pure A



$\hookrightarrow$  Sublimation



KCL, KVL





UHF,  
VHF

↓ 1 GHz - 30 GHz ↓ ↑ m range

In this range the

wavelength,  $\lambda$  is in

cms.