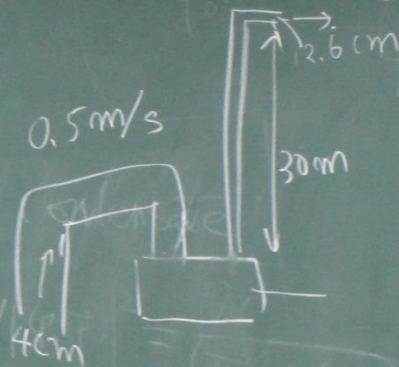


$$kT \frac{u}{T} = \dots = \left(\frac{T}{T_c}\right)^3$$

$$P + \frac{1}{2} \rho v^2 + \rho g y = \text{constant}$$

$$Av = Av'$$



$$4^2 \cdot 0.5 = (2.6)^2 \cdot v'$$

$$v' = \frac{8}{6.76} = 1.2 \text{ m/s}$$

3.4.2 Detection of the Bose-Einstein
Density profile
The ground state wave function

$$\psi(r) = N |\psi(r)|^2 = \frac{N}{\sqrt{2} (4\pi r)} e^{-\dots}$$

3.4.3 Bose-Einstein condensation of the BEC

$$P = P + \frac{1}{2} \rho (v^2 - v'^2) + \rho g (y - y')$$

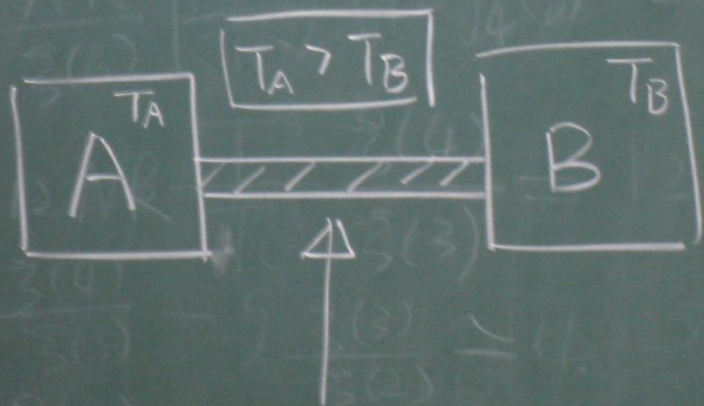
$$U(\text{J}) = 5.0 \times 10^5 \text{ N/m}^2 + \frac{1}{2} (1.0 \times 10^3 \text{ kg/m}^3) [(0.5)^2 - (1.2)^2] + (1.0 \times 10^3 \text{ kg/m}^3) (9.8 \text{ m/s}^2) (-30)$$

$$= 3NR \frac{T}{T_c} \frac{g(3)}{3} = 3NR \frac{T}{T_c} \frac{g(3)}{3} \quad (T > T_c)$$

$$= \left[\frac{RT}{3} \right] g(3) \quad (T \leq T_c)$$

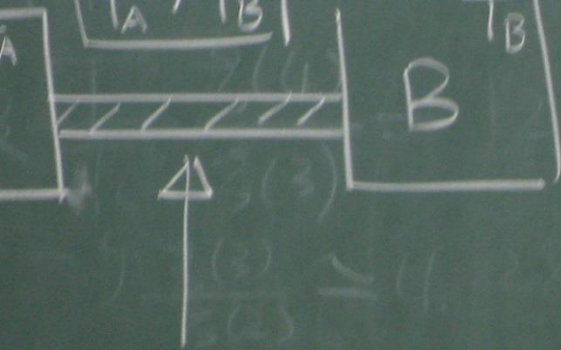
溫度

熱 Heat



$$T_A > T_{AB} > T_B$$





$$T_{AB} > T_B$$



$$\Delta L = L \alpha \Delta T$$

$$\Delta V = V \gamma \Delta T \quad \gamma \approx 3\alpha$$

$$\Delta A = A \beta \Delta T \quad \beta \approx 2\alpha$$

	α ($10^{-6}/^{\circ}\text{C}$)	μm
Ice	51	glass 9
Pb	29	3.2
Al	23	1.2
Steel	11	0.5
Concrete	12	