


$$A = BC$$

Maxwell & Triple Product

Thermal Expansion $\alpha = \frac{1}{V} \left(\frac{\partial V}{\partial T} \right)_P$

Isothermal Compressibility $\kappa = -\frac{1}{V} \left(\frac{\partial V}{\partial P} \right)_T$

 Maxwell relation

 Cyclic relation

$$\left(\frac{\partial P}{\partial V} \right)_S$$

$$-\left(\frac{\partial P}{\partial S} \right)_V$$

$$\left(\frac{\partial S}{\partial V} \right)_P$$

$$\left(\frac{\partial T}{\partial V} \right)_S$$

$$\left(\frac{\partial P}{\partial T} \right)_S$$

Handwritten notes:
 $\frac{\partial S}{\partial V} \Big|_E$
 $-\frac{\partial E}{\partial V} \Big|_S$
 $\frac{\partial S}{\partial E} \Big|_V$
3.10

3.11

$$-\left(\frac{\partial T}{\partial S} \right)_V$$

$$\left(\frac{\partial S}{\partial V} \right)_T$$

$$-\left(\frac{\partial P}{\partial S} \right)_T$$

$$\left(\frac{\partial S}{\partial T} \right)_P$$

$$-\frac{T}{C_V}$$

$$\left(\frac{\partial P}{\partial T} \right)_V = \frac{\alpha}{\kappa}$$

$$\left(\frac{\partial T}{\partial V} \right)_P = \frac{1}{\alpha V}$$

$$\frac{C_P}{T}$$

Specific heat constant volume

Specific heat constant pressure

$$-\left(\frac{\partial V}{\partial T} \right)_P$$

$$\left(\frac{\partial P}{\partial V} \right)_T$$

$$-\left(\frac{\partial T}{\partial P} \right)_V$$

$$-\alpha V$$

$$-\frac{1}{\kappa V}$$

$$-\frac{\kappa}{\alpha}$$

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