

Thermoelectricity, Atoms to Systems

L1.4 Quiz

Answers

We have seen that the current and the heat current can be written in terms of voltage and temperature differences in the form

$$I = G \Delta V + G_S \Delta T$$

$$I_Q = G_P \Delta V + G_Q \Delta T$$

1.4a. A device is left open-circuited so that current is **zero**. The ratio of the heat current to the temperature difference is given by

(a) G_Q

(b) $G_Q - \left(\frac{G_P G_S}{G} \right)$

(c) $G_Q + \left(\frac{G_P G_S}{G} \right)$

(d) $G_Q + G_P$

(e) None of the above

1.4b. The coefficients G_P and G_S are related by

(a) $G_P = T G_S$

(b) $G_S = T G_P$

(c) $G_P + G_S = T$

(d) $G_P - G_S = T$

(e) None of the above, they are not related