

Your name: _____ ID: _____ Nov. 30, 2020

EE214000 Electromagnetics, Fall, 2020

Quiz #11-2, Open books, notes (14 points), due in class, Monday, Nov. 30, 2020

1. Rate the conductivities of iron, aluminum, gold, silver, and copper. (3 points)

$$Ag > Cu > Au > Al > Fe$$

2. Explain why copper is the most commonly seen conducting material in a circuit? (2 points)

便宜且導電性佳

3. If an electrolytic current follows the Ohmic law, explain what happens in the conducting process. (3 points)

e-移動時受撞擊影響而有終端速度

4. How do you use the equation of continuity to obtain the Kirchhoff's current law? (3 points)

$$\nabla \cdot \vec{J} = -\frac{\partial \rho}{\partial t} \Rightarrow \oint_S \vec{J} \cdot d\vec{S} = 0$$

5. Why is the boundary condition $\frac{dV}{dy} = 0$ used at the cathode of a vacuum diode? (3 points)

空間中眾多e-所形成的電場屏蔽了兩導體板間的電場