

CONCEPTUAL PROBLEMS, Chapter 27

Phys 2401, Dr. Huang

Fill in a **T/F** answer for each statement below:

1. When an electric current flows through a conducting wire, the electric field and charge carrier density inside the conducting wire are no longer zero.
2. The direction of flow of electrons is opposite the direction of the current.
3. The instantaneous speed of charge carriers in a metal cannot be much higher than their “drift speed”.
4. The drift speed of electrons in a copper wire is much greater than 1 mm/sec.
5. The resistance of a typical metal has a negative temperature coefficient.
6. The electric power dissipated in a resistor is converted to thermal heat.