

The resistance in a conductor is the opposite of the passage of the current. Resistance R is the inverse quantity of the conductance G , which is known as the ability of the current to pass through the conductor. These collisions slow down their movement, thus the resistance of the metal is increased. If a potential is applied, electrons move towards the positive region, constantly colliding with each other. In raising the temperature T , way above the absolute zero yet way below the melting point, the atoms vibrate constantly about their position, which also leads to the resistance increase. At said temperature, the resistance is found to vary linearly with the temperature, assuming that T is measured in $^{\circ}\text{C}$: Electrons in metals are in random motion constantly.