

The Classification of the Skin Effect of Pure Metals II: Thermal Radiative Absorption and Emission

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This is the second part in a series of two papers. In this part, the quantity temperature, which is more physically significant and more easily measured and controlled than the frequency of incident electromagnetic waves and the relaxation time of metal in the area of thermal radiation research, is introduced into the diagrams of the skin effect regions. Incident frequency vs. temperature of metal diagrams and temperature of emitter vs. temperature of receiver metal diagrams are used to show the skin effect regions for the thermal radiative absorption of metals. Then, the regions for thermal radiative emission of metals are considered, based on Kirchhoff's law and the regions for thermal radiative absorption. This work gives an insight into the determination of thermal radiative properties of metals at various temperature and frequency situations.