

# Current density

**Current density  $j$**  is a vector physical quantity that is defined as the electric current intensity passing through a unit area. The direction of the vector is determined by the normal vector to this unit area.

In relation to the thermal effects of electric current, the current density is directly related to the heat released per unit volume. When studying the biological effects of the current, it tells more about the **local** effect of the electric current on tissues.