

double-layer current

The non-faradaic current associated with the charging of the electrical double layer at an electrode-solution interface, given by:

$$i_{\text{DL}} = \frac{d(\sigma A)}{dt}$$

where σ = surface charge density of the double layer, A = area of the electrode-solution interface and t = time. Capital letters should be used as subscripts to avoid the possibility of confusing this symbol with that for the limiting diffusion current.

Source:

PAC, 1985, 57, 1491 (*Recommended terms, symbols, and definitions for electroanalytical chemistry (Recommendations 1985)*) on page 1496