

Ecuaciones del transporte convectivo (turbulento) - Coeficientes de transporte

Forma genérica (ley de Ohm)

$$\phi = \frac{\Delta \Pi}{R} = \frac{\Delta \Pi}{\frac{1}{\epsilon}} = \epsilon \Delta \Pi$$

Materia

$$\phi = N_A \left[\frac{\text{mol A}}{\text{m}^2 \text{ s}} \right] = k_C (C_{A0} - C_A)$$

Energía

$$\phi = q \left[\frac{\text{J}}{\text{m}^2 \text{ s}} \right] = h (T_o - T)$$

Ley de Newton (momento)

$$\phi = \tau \left[\frac{\text{kg m}}{\text{m}^2 \text{ s}^2} \right] = - \frac{1}{2} f \rho v^2$$

en vez de:

$$\phi = \tau = \epsilon_T (v_o - v) f \rho v^2$$

Transporte bifásico

$$\phi = \frac{\Pi_V - \Pi_o}{\frac{1}{\epsilon_V}} = \frac{\Pi_o - \Pi_L}{\frac{1}{\epsilon_L}} = \frac{\Pi_V - \Pi_L}{\frac{1}{\epsilon_V} + \frac{1}{\epsilon_L}}$$

coeficiente global:

$$\frac{1}{\zeta} = \frac{1}{\epsilon_V} + \frac{1}{\epsilon_L}$$