



Erratum

Erratum: “An Experimentally Validated Model for Two-Phase Pressure Drop in the Intermittent Flow Regime for Noncircular Microchannels,” [Journal of Fluids Engineering, 2003, 125, pp. 887–894]

S. Garimella, J. D. Killion, and J. W. Coleman

1. By convention, pressure drop is treated as a positive value. Therefore, Eq. (11) should be as follows, i.e., without the negative sign on the right-hand side:

$$U_{\text{interface}} = \frac{(dP/dx)_{f/b}}{4\mu_L} (R_{\text{tube}}^2 - R_{\text{bubble}}^2) \quad (5)$$

2. The expression for pressure drop due to the film-slug transition, Eq. (19) had a factor of 2 in the denominator, which should be removed, as shown below:

$$\Delta P_{\text{one transition}} = \rho_L \left(1 - \left(\frac{R_{\text{bubble}}}{R_{\text{tube}}} \right)^2 \right) (U_{\text{slug}} - U_{\text{film}}) (U_{\text{bubble}} - U_{\text{film}}) \quad (6)$$

3. The value of the coefficient, a , in Eq. (21), currently listed as 2436.9 in the text following the equation, should be changed to $a = 2.4369$. For Eq. (24), the coefficient should be: $a = 0.9965$ instead of 996.5.