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Fig. 5.42 Subcooled flow boiling mean active nucleation site density for various refrigerant saturated temperatures at (a) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 2.0 \text{ mm}$ and (b) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 1.0 \text{ mm}$. 150

Fig. 5.43 Subcooled flow boiling mean active nucleation site density for various refrigerant saturated temperatures at (a) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 0.5 \text{ mm}$ and (b) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 0.2 \text{ mm}$. 151

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Fig. 5.45 Mean axial speed of the big bubbles in the slug flow in the subcooled

flow boiling for various inlet subcoolings at (a) $T_{\text{sat}} = 15^{\circ}\text{C}$, $G = 500 \text{ kg/m}^2\text{s}$ & $\delta = 0.5 \text{ mm}$ and (b) $T_{\text{sat}} = 15^{\circ}\text{C}$, $G = 500 \text{ kg/m}^2\text{s}$ & $\delta = 0.2 \text{ mm}$.

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Fig. 5.46 Mean axial speed of the big bubbles in the slug flow in the subcooled flow boiling for various duct sizes at (a) $T_{\text{sat}} = 15^{\circ}\text{C}$, $G = 500 \text{ kg/m}^2\text{s}$ & $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ and (b) $T_{\text{sat}} = 15^{\circ}\text{C}$, $G = 500 \text{ kg/m}^2\text{s}$ & $\Delta T_{\text{sub}} = 6^{\circ}\text{C}$.

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Fig. 5.47 Mean axial speed of the big bubbles in the slug flow in the subcooled flow boiling for various refrigerant saturated temperatures at (a) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 0.5 \text{ mm}$ and (b) $G = 500 \text{ kg/m}^2\text{s}$, $\Delta T_{\text{sub}} = 3^{\circ}\text{C}$ & $\delta = 0.2 \text{ mm}$.

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Fig. 5.48 Comparison of the measured data for mean bubble departure diameter in the subcooled flow boiling of R-134a with the proposed correlation.

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Fig. 5.49 Comparison of the measured data for mean bubble departure frequency in the subcooled flow boiling of R-134a with the proposed correlation.

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Fig. 5.51 Comparison of the measured data for heat transfer coefficient in the subcooled flow boiling of R-134a in the bubbly flow regime with the proposed correlation.

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Fig. 5.52 Comparison of the measured data for heat transfer coefficient in the subcooled flow boiling of R-134a in the slug flow regime with the proposed correlation.

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