PROBLEM 12-6N QUESTION

Thermal Parameters In A Heated Channel In Two-Phase Flow

Consider a 3 meter long water channel of circular cross-sectional area $1.5 \times 10^{-4} m^2$ operating at the following conditions:

$\dot{m} = 0.29$ kg/s

$p = 7.2$ MPa

h_{in} = saturated

q" = axially uniform

$x_{exit} = 0.15$

Compute and plot as a function of axial position:

1. Fluid bulk temperature, and

2. Wall temperature. (Use the Jens-Lottes, Thom and Collier-Pulling correlations)

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