

CFD Modeling of Boiling in a Microchannel Based On Phase-Field Method

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Abstract : The hydrodynamics and heat transfer characteristics of a vaporized elongated bubble in a rectangular microchannel have been simulated based on Cahn-Hilliard phase-field method. In the simulations, the initially nucleated bubble starts growing as it comes in contact with superheated water. The growing shape of the bubble compared with the available experimental data in the literature.

Keywords : microchannel, boiling, Cahn-Hilliard method, simulation

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