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**Numerical Study of Effect of Vapor Bubble Behavior on Wetting Condition in Boiling Flow** JUNNOSUKE OKAJIMA, Tohoku University, PETER STEPHAN, TU Darmstadt — The effect of vapor bubble behavior on wetting condition was evaluated by numerical simulation. The wetting properties were calculated by moving-contact-line evaporation model and that model was coupled with macro-scale simulation, in which the vapor bubble growth on the solid surface and heat conduction in solid were calculated by Finite Volume Method. The working fluid was assumed as FC-72 at 0.1013 MPa. The dynamic contact angle and the evaporation rate on the contact line were calculated and their dependencies on the wall superheat and contact line speed were found. In the macro-scale simulation, the heat transfer effect and bubble dynamics were evaluated by changing the wall temperature and mainstream velocity. Due to the evaporation rate on contact line and the convective heat transfer around the contact area, the temperature distributions at the front-side and backside of bubble was different. Additionally, it was found the trend of time variation of contact angle was varied by the mainstream velocity.

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