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Investigation of Thermal Stratification by Direct Contact Condensation in a Suppression Pool KOJI OKAMOTO, DAEHUN SONG, NEJDET ERKAN, The University of Tokyo — Thermal stratification in the suppression pool of Boiling Water Reactor were investigated using simple slab-type experimental facilities. The steam direct condensation causes the vibration of bubble interface, resulting in the mixing enhancement at the nozzle. Using the bubble motion model, the Richardson number had been estimated which is a ratio of buoyancy to interface fluctuation momentum. The thermal stratification occurrence had been strong relation to the Richardson number. The flow pattern inside the chamber had also affected by the Richardson number. The flow pattern were measured by PIV. The velocity distribution were compared with the numerical simulation, showing the good agreement. In small Ri, i.e., lower fluctuation condition, the thermal stratification does occur. Thus, the momentum caused by the direct condensation determined the occurrence of the thermal stratification.

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