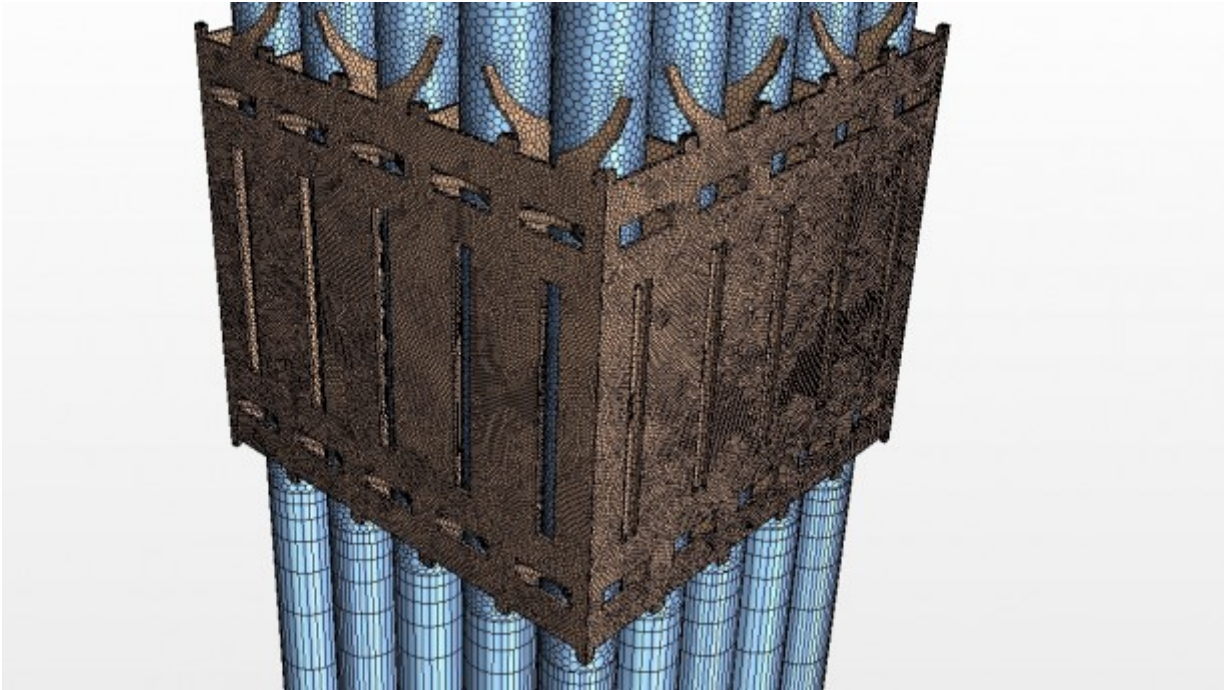


CFD modeling of boiling flow in PSBT 5x5 bundle



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Abstract:

Three-dimensional computational fluid dynamics (CFD) method was used to model the boiling two-phase flow in one of the PSBT 5-by-5 rod bundle tests. The rod bundle with all the spacers was modeled explicitly using unstructured computational grids. The six-equation, two-fluid model with the wall boiling model were used to model the boiling two-phase flows in the bundle. The computed void fractions compare well with the measured data at the measuring plane. In addition to the averaged void data, the CFD results give a very detailed picture of the flow and void distributions in the bundle and how they are affected by solid structures in the flow paths such as the spacer grids and mixing vanes.

 [SLo-PSBTbundle-28-2-12-1.pdf](#)^[1]

Author Name:

Simon Lo

Joseph Osman

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