Microscale Void Fraction Measurement and Two-Phase Flow Regime Transition Models

*Calibration of the Impedance Void Meter*

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**Objective**

Identify flow regimes and transitions in microchannels via an impedance void fraction meter.

**Approach**

- Record high speed videos and measurements of impedance
- Use a wide range of void fractions
- Calculate void fraction for calibration

**Impact**

- Develop a better understanding of flow regime transition criteria for flow boiling in microchannels.
- Improve modeling and design of two-phase flow microsystems.

**Selected Publications**

- S. Paranjape, S.N. Ritchey and S.V. Garimella, InterPACK 2011, paper 52116, Portland, OR.