Refrigerant Flow Boiling in Microchannels

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Objective

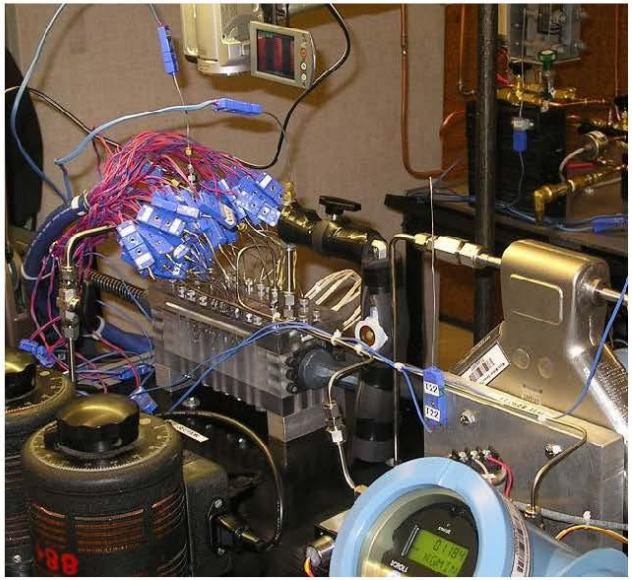
Experimentally determine the **local** heat transfer rates in refrigerant flow boiling in a cold-plate evaporator with parallel microchannels.

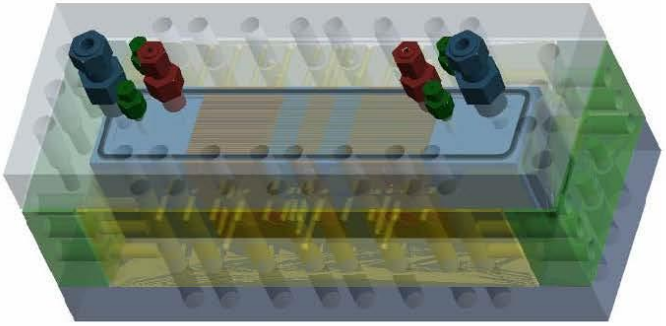
Impact

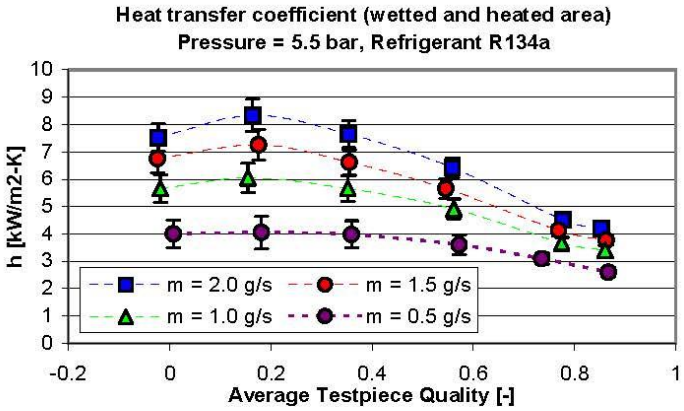
The outcomes of this study will:

- assess existing models against experimental results
- help formlulate predictive correlations for flow boiling in microchannels
- optimize design of microchannel cold plate evaporators
- improve simulations of small-scale refrigeration systems

Approach







Selected Publications

- Liu D., Lee P., and Garimella S.V., *Int. J. Heat and Mass Transfer* **48**:5134-5149, 2005.
- Chen, T. and Garimella, S. V., *ASME J. Electronic Packaging* **128**:398-404, 2006.
- Chen, T. and Garimella, S. V. *Int. J. Multiphase Flow* **32**:957-971, 2006.
- Liu, D. and Garimella, S.V. *ASME J Heat Transfer* (in press).
- Bertsch, S, Groll, E.A., and Garimella, S.V., International Conference on Refrigeration, Beijing, China, August 2007.

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