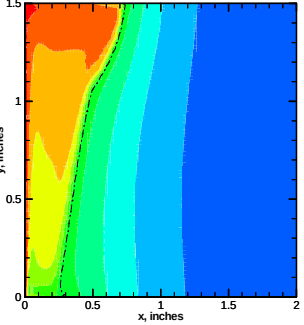


Phase Change Energy Storage

Faculty: S. V. Garimella **Student: S. Krishnan**

Impact

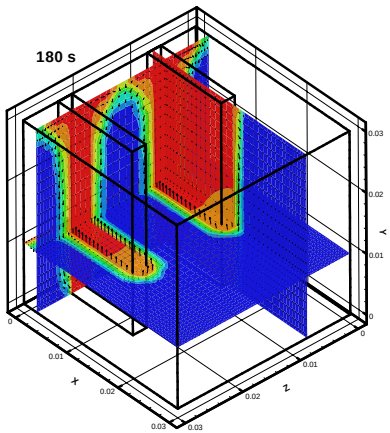
Applications include: backup cooling, absorption of thermal transients, quick heating (for startups), defrosting, temperature control, cooling of portable and other devices with low duty cycle,…

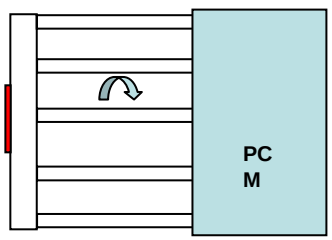
Objective

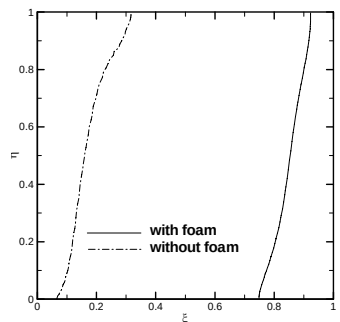
Map the capabilities of phase change energy storage for thermal management of transient heat dissipation.

Approach

- Develop simple analytical tools and comprehensive numerical models to determine the performance of different PCMs in energy storage systems in different configurations, with and without thermal conductivity enhancers
- Experimentally investigate the performance of PCMs in representative applications







Selected Publications

S. Krishnan, S. V. Garimella, and S. S. Kang, IEEE Trans Components and Packag Tech **28**(2):281-289, 2005.

S. Krishnan and S. V. Garimella, ASME J Electronic Packaging, **126**:308-316, 2004.

S. Krishnan, J. Y. Murthy and S. V. Garimella, *ASME J Heat Transfer* **127**:995 - 1004, 2005.

S. Krishnan, J. Y. Murthy, and S. V. Garimella, *ASME J Heat Transfer,* **128**:793-799, 2006.

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