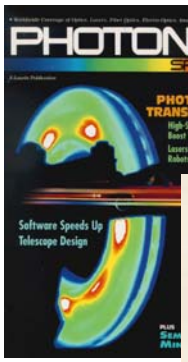
Infrared Sensing and Thermography at ORNL

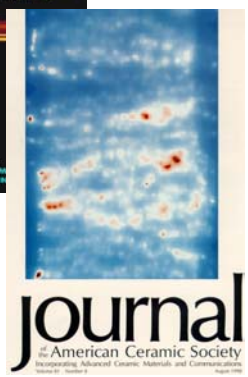
Background

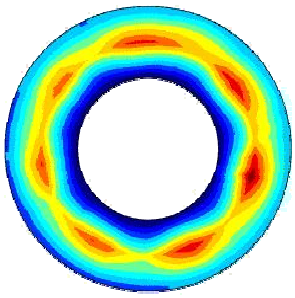
Infrared detectors and infrared cameras are used to detect temperature changes in a variety of materials and processes. The temperature maps obtained by an infrared camera have applications in process monitoring, property measurements, non-destructive evaluation and medical imaging. The high-speed thermography technique developed at ORNL has been used in capturing thermal transients in power transmission , microelectronics, automotive braking system and metal casting.

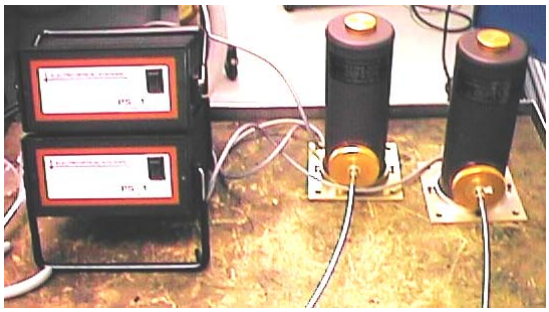
Features:

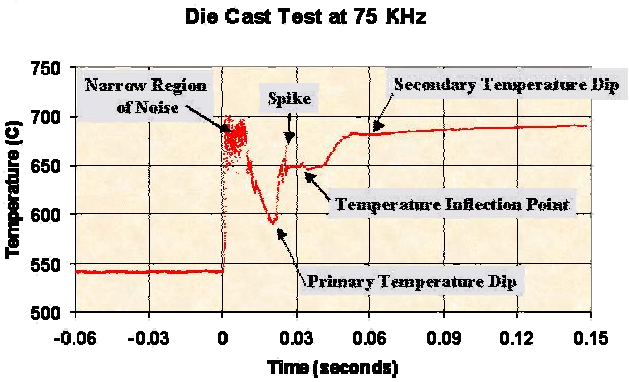
- **High-Speed IR Camera**
  - Full frame rate = 142 Hz, small area = 6100 Hz
  - Temperature sensitivity = 0.015 ºC
  - Wide angle, telephoto, and microscope lenses
- **Fiber Optic Coupled 2-Color IR Detector**
  - Up to 100,000 Hz











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