



TECHNOLOGY

Multispectral Imaging Radiometer

OVERVIEW

The Multi-spectral Imaging Radiometer is an optical apparatus that maps the temperature distribution across a hot sample, with high spatial resolution. An image of the glowing object is split into 4 (or more) separate wavelength bands, creating multiple visible/NIR images that are focused independently. All of the single- wavelength images are captured simultaneously in a single frame of a CCD camera, which is then processed to calculate a temperature map of the object.

The principal advantages of the method are:

- 1) The temperature and emissivity of the sample are mapped in two dimensions.
- 2) Chromatic aberrations are practically eliminated by independent focusing of each spectral band.
- 3) All the spectral images are obtained simultaneously, allowing temporal variations to be studied.

The application for which this apparatus is developed measures temperatures across a laser-heated spot, but the method can be applied to any glowing hot object with nonuniform temperature.

For additional information, please contact the Office of Technology Commercialization, University of Maryland College Park, via phone at (301) 405 -3947 or e-mail at otc@umd.edu.

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Devices
- Sensors/Monitors

EXTERNAL RESOURCES

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