

Compact multispectral camera
for SWIR imaging using microoptics



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Cover: Compact multispectral SWIR camera.

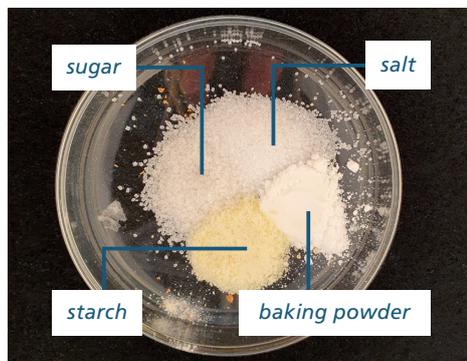
Top: Exploded view of multispectral SWIR camera with prospective applications.

Ambition

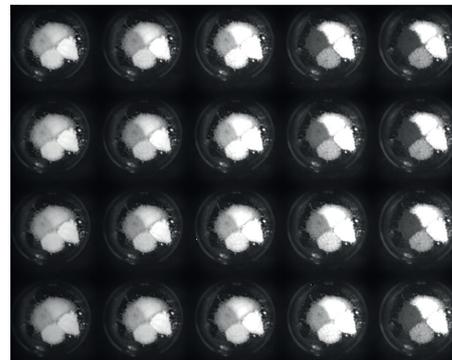
Ultra-compact system for multispectral imaging of extended scenes in the shortwave infrared (SWIR) wavelength range in single shot acquisition.

Application

- Recycling, industrial sorting
- Precision agriculture and plant monitoring
- Security and surveillance
- Biomedical inspection



RGB image of different ingredients.



Raw SWIR image of the scene shown on the left.

Characteristics

- Spectral range: 1050 – 1550 nm
- No. of channels: 20
- Spectral sampling: ~ 26 nm (linear)
- Spectral resolution: 48 nm
- Field of view: 36°
- F-number (F/#): 3.6
- Image resolution: 128 x 128 pixel
- Pixel pitch: 15 μm
- Total track length: 10.1 mm
- Overall size: 82 x 55 x 55 mm³
- Lightweight: 350 g

Technology

- Multi-aperture imaging principle based on wafer scale manufactured microlens arrays
- Linear-variable infrared filter enables linear spectral sampling
- InGaAs-Sensor for shortwave infrared detection
- Stray light suppression with 3D-baffle structure

Contact

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