

## Infrared hyperspectral upconversion imaging using spatial object translation - DTU Orbit (08/11/2017)

### Infrared hyperspectral upconversion imaging using spatial object translation

In this paper hyperspectral imaging in the mid-infrared wavelength region is realised using nonlinear frequency upconversion. The infrared light is converted to the near-infrared region for detection with a Si-based CCD camera. The object is translated in a predefined grid by motorized actuators and an image is recorded for each position. A sequence of such images is post-processed into a series of monochromatic images in a wavelength range defined by the phasematch condition and numerical aperture of the upconversion system. A standard USAF resolution target and a polystyrene film are used to impart spatial and spectral information unto the source.

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