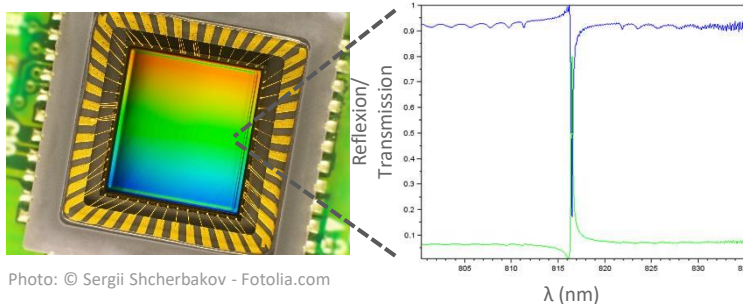


Ultra narrow spectral filter for focused beam

The different optical filtering solutions require a compromise between the angular tolerance, bandwidth and implementation complexity. None enables ultra narrow filtering quality for focused beams.

DESCRIPTION*

- Transmission filter for (multi) spectral sensor based on the resonant grating principle
- Ultra narrow spectral filtering of focused beam/small aperture filter:
 - Angular tolerance: filtering wavelength is independent of the incident angle of the beam on the component
 - Small number of thin layers
 - Simplified and planar geometry shaped filter
- Spectral performance independent of numerical aperture of the objective
- Polarization selection possibility
- Integrable in the focal plane of an optical system
- Matrix integration of filters operating at different wavelengths for multispectral acquisitions
- Wafer level filter integration:
 - Deposition of filter
 - Patterning at pixel level
- Spectral range: visible, infrared, hyper frequency...



TECHNICAL SPECIFICATIONS

Size of the simulated core grating	10 μm
Angular tolerance	$\pm 4^\circ$
FWHM	0,2 nm around 1000 nm
Thin layers	11

*Technology requiring license rights.
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COMPETITIVE ADVANTAGES

- Narrow spectral bandwidth
- Angular tolerance
- Ease of integration & manufacturing
- Compactness of the system

APPLICATIONS

- Spectroscopy
- Microscopy
- Surveillance (ex: gas detection)
- Medical diagnosis
- Environmental monitoring
- Optical sorting
- Industrial quality control
- Telecommunications

INTELLECTUAL PROPERTY

- Patent pending

DEVELOPMENT STAGE

- Technology concept formulated



LABORATORY

- PHOTO team



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