

BROADBAND HYPERSPPECTRAL PHOTOSPECTROMETER

Technological advantages

Compact system :

- Simplified access on the object to be analyzed.

Robust setup compared to regular setups
(thousands of acquisitions per object).

Invention synthesis

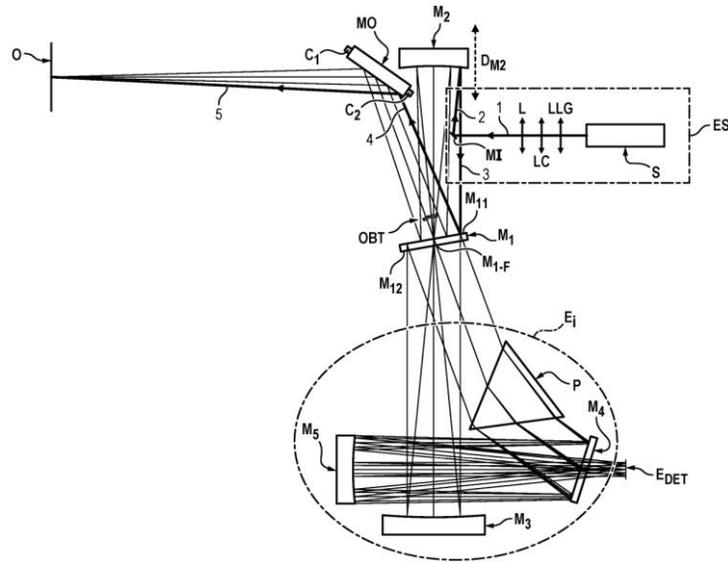
The invention deals with the spectro-imagery with the acquisition on an image in a large set of narrow spectral bands.

Catadioptric instruments do not allow accessing all wavelengths because they possess lenses introducing chromaticism.

The invention presents a spectrophotometer with an emitting light beam source (preferably a laser) in the ultraviolet, visible, infrared, for a line by line sweep on the object to analyze reemitting a beam using fluorescence. The detection is carried out by a CCD or CMOS sensor. The optical path is defined by 3 mirrors : focusing (movable in translation), folding and planar scanning mirror (movable in rotation). The spectrophotometer also possesses two measurements sensors for the distance between the object and the sweeping mirror.

Potential applications

- Analysis on : glue, resins, paints, organic or biologic elements, ... any material / nanomaterial with fluorescent properties.



Schematic view of the invention

- (ES,ES') Illumination assembly
- (S,S') Emitting light beam source
- (O) Object to be analyzed
- (M0) Planar scanning mirror movable in rotation
- (M1) First mirror folding
- (M2) Focusing mirror
- (C1,C2) Measurement sensors, distance between (O) and (M0)

Commercial benefits

- Accurate system, compact and robust.
- Well suited to a large set of studies using fluorescence.

Patented invention - under license.