

Polarimetric optical device for tissue analysis



- Spectro polarimetric technology available without calibration
- Non-destructive technology allowing to investigate tissues without any kind of specific preparation

KEYWORDS

Medical imaging
Intraoperative tumor
tissue assessment
Spectro-polarimetry

PATENT

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TECHNOLOGY

The main goal of the present invention is to enable the surgeon to evaluate during the intervention these surgical margins in a very short time, to limit the extension of response time. In addition, anatomopathologists could have a rapid response with high resolution and without degrading the fabrics allowing for subsequent histological confirmation by systematic analysis.

APPLICATIONS

- Highly reliable tumor margin assessment
- Real-time anatomopathology pre-analysis
- Microscope-adaptable device with 3D (plenoptical) sensor for tissue or Melanoma detection
- Could be used during surgical procedure as well as ex-vivo in a laboratory

INNOVATION ADVANTAGES

- Unique continuous spectro polarimetric technology available without calibration
- Architecture based on standard components
- Tested at different scale

DEVELOPEMENT STATUS

- Patent issued 2015
- Proof of concept realized at 3 scales :
 - Lab tool with 2x2 to 4x4cm field of view with multiple wavelength lighting
 - Microscope adaptable device with plenoptical camera
 - Mobile device (1cm³ optical device) for dermatological and endoscopic applications
- Technology available for licensing

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