

Tunable temperature and measuring angle holder for film and powder samples

Researchers from the Spanish National Research Council (CSIC) and the Catalan Institute of Nanoscience and Nanotechnology (ICN2-BIST) have recently developed a sample holder for measuring films or powder samples in a fluorimeter or UV-Vis-NIR spectrometer in transmission or reflection modes. The holder allows controlled temperature conditions, and an adaptable measuring angle for tuning the light incidence and/or light detection angle. The device is customizable to adapt to the instrumentation offered by different commercial brands.

Company providing spectrophotometers and equipment for Raman and emission (e.g. fluorescence, phosphorescence, electroluminescence, etc.) are being sought to collaborate through a patent licence agreement.

An offer for Patent Licensing

Optical properties characterization of powders or films at specific temperatures

Current UV-Vis spectrophotometers, fluorimeters and spectroscopic instruments are becoming more compact equipment and user-friendly. The disadvantage of this is that the equipment is becoming very specific for determined measurements and less flexible and modifiable. This is particularly true for the sample chamber and holders. To compensate this, the providers sell different accessories to allow some specific and less conventional types of measurements. Nevertheless, these accessories often lack some characteristics that might be difficult, are generally useful for one specific equipment and could not be adapted between different spectroscopic equipment of the same brand or between the same type of equipment of different brands.

The novel holder allows measuring films or powder samples in a fluorimeter or UV-Vis-NIR spectrometer in both modes (T and R). The holder allows conditions in order to assure a homogeneous and stable heating of the sample, above room temperature up to 200°C, and an adaptable measuring angle for tuning the light incidence and/or light detection angle.

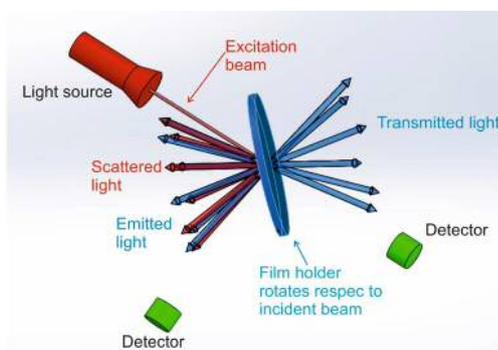


Fig.1) Image of the novel holder.

Main innovations and advantages

- Suitable for UV-Vis-NIR standard and transient absorption spectroscopies, Raman measurements and steady-state or time-resolved emission spectroscopies (fluorimeter)
- Measure of films (transparent or opaque) and powders at controlled temperature (up to 200 °C)
- Customizable to fit in many spectroscopy instruments
- Easy and fast change of samples inside the holder and setup of the holder in the equipment
- Reduced scattering of light due to incident light in opaque material.
- Light spectral range from 200 to 5500 nm, being a solution for measuring reflectance at different angles for opaque solids, transmission.

Patent Status

European Patent filed

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