

## SIGNAL STABILIZATION AND IMPROVEMENT SYSTEM IN SPECTROMETRIC MEASUREMENTS SUBJECT TO MECHANICAL FLUCTUATION

### Description:

The present invention falls within the technical field corresponding to measurement instrumentation using spectrometric techniques and, more specifically, in field measurement techniques, when the sample or the measuring instrument is subject to vibrations or other external mechanical fluctuations. The invention describes, in this context, an optical system and a method that make it possible to improve the signals generated by optical spectrometry instruments subjected to the aforementioned mechanical fluctuations.

### Keywords:

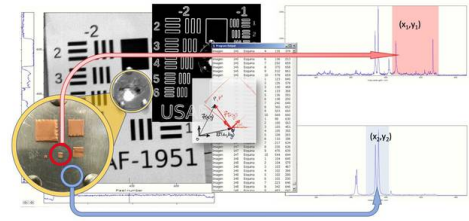
[Instrumentation](#), [Spectroscopy](#), [Optical Components](#), [Vibration](#)

### Sectors:

[Electronics](#), [Engineering](#), [Chemistry](#), [Construction](#), [Others](#)

### Areas:

[Hardware](#) / [Devices](#) / [Components](#), [Industrial](#), [Instrumentation](#), [Chemistry](#)



### Advantages:

The atomic and molecular characterization of a sample allows its identification in a practically unequivocal way. The invention makes it possible to carry out spectroscopic measurements when the sample, the measuring equipment or both are subjected to vibration.

### Uses and Applications:

Performing spectrometric measurements at a distance from UAV or other types of vehicles. The natural evolution of this field points to the development of spectrometers coupled to unmanned vehicles capable of reaching samples or areas of these unviable for humans and conventional spectrometers and obtaining measurements in flight. Demonstrators from the beginning of this century are obsolete in cost, weight, size, and technology. The applications of an instrument of these characteristics are both civil and military or in the field of space exploration: Detection of metals in general and in particular, of toxic / heavy metals (in soils, mud, shoulders, paints ...) in the field of geology, in cultural heritage, corrosion detection in civil works, in the global control of large solar installations, in chemical or biological aerosols (spores, fungi, pollens, viruses ...), in the detection of energetic compounds (explosives residues), and in the detection of contamination / corrosion in nuclear facilities, among others.

**Patent Number:** ES2798199B2

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**Filing Date:** 07/06/2019

**Protection Level:** National (Spain)

**Processing Status:** Spanish patent