

Title (en)  
METHOD AND ARRANGEMENT FOR THE TIME-RESOLVED SPECTROSCOPY USING A PHOTON MIXING DETECTOR

Title (de)  
VERFAHREN UND ANORDNUNG ZUR ZEITAUFGELÖSTEN SPEKTROSKOPIE MIT EINEM PHOTONENMISCHDETEKTOR

Title (fr)  
PROCÉDÉ ET DISPOSITIF POUR LA SPECTROSCOPIE À RÉOLUTION TEMPORELLE AVEC UN DISPOSITIF DE MÉLANGE PHOTONIQUE

Publication  
**EP 2250473 A1 20101117 (DE)**

Application  
**EP 09716330 A 20090221**

Priority

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- DE 102008012635 A 20080305

Abstract (en)  
[origin: WO2009109307A1] The present invention relates to a solution for time-resolved spectroscopy, wherein the sample to be analyzed is illuminated by a modulated light source, and the spectrum reflected therefrom is recorded in a time-resolved manner and evaluated. In the method according to the invention for time-resolved spectroscopy, a sample to be analyzed is irradiated by a modulated light source having short light pulses, and the radiation emitted by the sample is represented via imaging optical elements and a spectral-selective element on a sensor disposed in the image plane, and the signals thereof are evaluated by a control and regulating unit, and/or stored. The sensor disposed in the image plane is a PMD sensor, which in addition to the intensity values also determines the running times of the radiation emitted by the sample, and forwards the same to the control and regulating unit. Although PMD sensors were originally intended for object recognition, particularly in traffic, the use thereof in many other technical fields is conceivable and advantageous. The solution provided herein describes the use of PMD sensors in spectroscopy, particularly for the time-resolved analysis of samples. However, the use of PMD sensors is also possible in Raman spectrometry, or for the measurement of luminescence, such as for differentiating phosphorescence and fluorescence light.

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Citation (search report)  
See references of WO 2009109307A1

Citation (examination)

- EP 1528380 A1 20050504 - OLYMPUS CORP [JP]
- US 2005156103 A1 20050721 - MAY DONALD F [US], et al

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