



Nano-objects Detection Device

Competitive Advantages

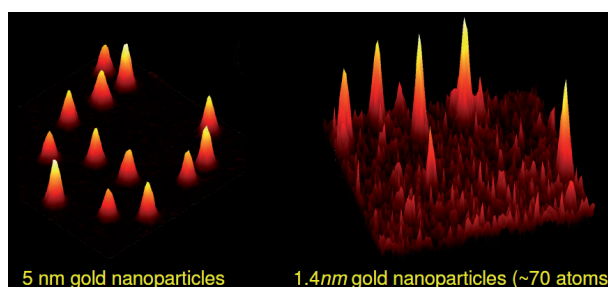
Existing optical detection methods in light refracting medium use either fluorescent molecules or interferometric methods. Both have drawbacks: the former due to photo bleaching phenomenon, the later to the complexity of the devices needed to operate.

The present invention overcomes these issues by:

- simplifying the device to allow operation on an industrial scale,
- improving the sensitivity of the method (factor 100).

Description of technology

The technology is a new, highly sensitive and simple optical method for imaging detection of non fluorescent nano-objects (metallic nanospheric particles of roughly 1nm diameter). This technique of detection is based on the strong absorption of these nano-agregats in the neighborhood of their resonance plasmon - ie collective oscillation of the electron inside a metallic nanoparticle in response to an external light electric field. It is a confocal device using the overlapping of a "heating" beam and a "probe" beam with different polarization.



Laboratory's Know-How

The Bordeaux Hertzian & Optical Molecular Physic Center (CPMOH) develops a wide opening to applications and to technology transfers of its research and skills. This strong will results in numerous industrial collaborations and patented technologies:

- 13 patents since 2001,
- 4 patented technology licenses ,
- 2 spin-offs.

Patent and IP Strategy

The technology benefits from a Patent originally filed in 2004 ([FR2872909 B1](#)). It has been extended to the US, Europe and Japan.

To reinforce the IP strategy, this patent may be linked to our other technology offer «method and device for photothermal imaging tiny metal particles which are immersed in a given medium»: [US6965434](#), filed in 2002.

Aquitaine Valo offers to grant a patent license. R&D enquiries are welcome to develop or adapt this device to other industrial field needs.

Christian MASSUS
Marketing & Communication Manager

Aquitaine Valo . Service de Valorisation
146 rue Léo-Saignat . 33076 Bordeaux France
T 33 (0)5 57 57 95 06 . M 33 (0)6 67 17 48 67
c.massus@aquitaine-valo.fr www.aquitaine-valo.fr

