

Optical information apparatus and microscope system

Rapid obtaining of optical information in the depth direction to create 3D optical image!

Overview

Laser scanning microscopy, used for observing a sample by scanning a laser focal spot and detecting reflecting, scattering, or fluorescence signals from a target can be increased acquisition speed of 2D images by high-speed raster scanning of a laser beam. But the rapid acquisition of 3D images is substantially restricted due to the need of changing the moving observation plane.

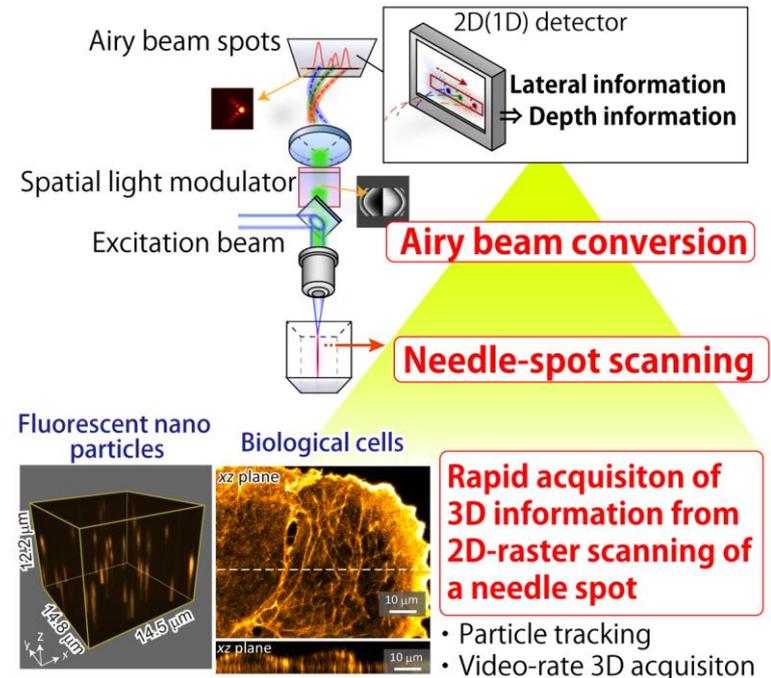
Using the present invention can be possible the optical 3D imaging acquired at once without moving the optical system or target, because optical information along the optical axis obtained in different lateral position on the detector by separately concentrating the lights.

Product Application

- ❑ Rapid 3D image acquisition required domain
- ❑ Biological, organism-related and medical field such as bio-function analysis
- ❑ Industrial fields where the fine functional materials are developed such as metals and chemicals

IP Data

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- ❑ Possible to obtain rapidly optical information of the target sample from different positions along the optical axis
- ❑ Possible to create 3D optical image in real time

Related Works

- [1] Y. Kozawa and S. Sato, Sci Rep 9, 11687 (2019) <https://doi.org/10.1038/s41598-019-48265-3>
- [2] Tohoku Univ. New Technology Presentation Meeting 2020, JST [Seminar Video \(Japanese Speaking\)](#)

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