

The CUNY Center for Advanced Technology In Photonics Applications (CUNY CAT)
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Optical Scanning Microscope Tile Imager System

The computer-controlled optical scanning microscope tile imager system has been developed to overcome simultaneously the common incompatibility of achieving a high magnification and a large field of view. This system successfully achieves both by arranging captured high-resolution images of adjacent areas to attain a composite effective enlarged viewing field or area. The system is comprised of galvanometer scanners, a CCD camera, a frame grabber, high brightness LED sources of different wavelengths, and a personal computer. The system is capable of rapidly acquiring a large number of high-resolution images. The total magnification for a single image could be variable; currently ~ 800X is the maximum attainable magnification with a 4.38 μm resolution for a single image.

The speed, sensitivity, high magnification and simultaneous composite large field of view of this system make it suitable to image cells and semiconductor devices over a large area at a high resolution.

The Optical Scanning Microscope Tile Imager System can be utilized in medicine, biology, semiconductor inspection, device analysis and quality control. It can also be used in Multiphoton Imaging applications

Potential Applications:

- Skin Cancer Imager
- Various Skin Disorders
- Skin Lesion Screening and Diagnostic

Potential Capabilities

- Cell Imager
- Cell evaluation in PAP smears
- Imaging Bacteria

Other Areas:

- Connective Tissue Disease
- Cosmetics and Pharmaceutical Testing

Benefits:

- Non-invasive.
- Fast Scanning and Rapid measurements.

This technology opportunity sheet describes continuing efforts in this area. Several patents may have been issued or are pending and which may be available for licensing.

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