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Using Microlens Array for Microscopic Multi-View Image Capturing

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Abstract

This paper presents a novel technique which using microlens array for microscopic multi-view image capturing. The microlens array, integrated with a microscope and a digital camera, can capture a series of microscopic multi-view images in parallel. Without using any costive camera array or any complicate algorithm to reconstruct a three dimensional data base, one can directly link a series of images from selected lenses at interested viewing angles to create an arbitrary animation. The resolution of the images from each microlens of this prototype system is around 80K.

Key words : Multi-view;Microlens array;3D image