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Three-Dimensional Range Imaging Apparatus And Method

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DESCRIPTION

This technology is a method of three-dimensional range imaging. The method involves: providing a modulated light signal; forming a fixed fiber array with ends of optical fibers; switching the modulated light signal successively into multiple optical fibers to form a pixel pattern at the fixed fiber array; and projecting the pixel pattern onto a target.

FEATURES AND BENEFITS

- Provides inexpensive, lightweight, and reliable range imaging system that produces high quality images including tens, hundreds, or even thousands of pixels.
- Target surface characteristics, such as reflectivity, roughness, and density (of semi-solid objects such as clouds or vegetation) can be acquired with high resolution and accuracy.
- Images of large target area can be acquired without use of any moving mechanical parts such as moving mirrors or scanning optics.
- Direction, timing, and beam quality of light emitters can be controlled to produce a controllable illumination pattern. Images produced can cover a wide variety of ranges, angular extents, and resolutions

APPLICATIONS

- Terrestrial Surveying
- Vehicle Anti-Collision System
- Robotic Vision and Guidance
- Surface Characterization

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-15184-1, please contact:

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