

HYPERSPECTRAL IMAGING APPARATUS AND METHOD

Abstract

Various embodiments provide a hyperspectral imaging apparatus. The hyperspectral imaging apparatus includes a micro-lens array having a plurality of micro-lenses; and a filter array having a plurality of tunable filters. Each of the plurality of tunable filters is optically coupled to a respective micro-lens of the plurality of micro-lenses. Each micro-lens and the corresponding coupled tunable filter are configured to generate a spectrally filtered image of a scene, such that the micro-lens array and the filter array generate a plurality of spectrally filtered images of the scene for receiving by a plurality of areas of an image sensor. Each of the plurality of tunable filters is tunable to transmit a selected wavelength within a respective spectral band, wherein the spectral bands of the plurality of tunable filters are different from each other.

FIG. 2