## Abstract

Disclosed herein are systems and methods including polarization sorting metasurface microlens array devices. In certain embodiments, a polarization imaging device is provided. The polarization imaging device includes: a source of image light; a metasurface lenslet array comprising a plurality of repeating metasurface lenslets, where the plurality of repeating metasurface lenslets comprise a plurality of first metasurface lenslets configured to diffract the image light into a first polarization light in a first direction and a second polarization light in a second direction; an image sensor positioned in the optical path of the first polarization light and the second polarization light, and where the image sensor includes a plurality of image sensing units including a first image sensing unit positioned to sense the first polarization light and a second image sensing unit positioned to sense the second polarization light.

[Fig. 10A]