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- (54) **EXTENDED DEPTH OF FIELD OPTICAL SYSTEMS**
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G02B 5/18 (2006.01)
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(52) **U.S. Cl.** **359/558; 382/254**
(58) **Field of Classification Search** **359/558; 382/232, 254**

See application file for complete search history.

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(57) **ABSTRACT**

Systems and methods for generating an optical image include forming an optical image with at least one optical element of an optical imager while modifying wavefront phase. Modifying the phase does not reduce an optical bandpass limited by an aperture of the optical imager. The systems and methods also include detecting the optical image over a range of spatial frequencies such that there are no zeros in an optical transfer function of the optical imager over detected spatial frequencies within the optical bandpass and over an extended depth of focus that is larger than a depth of focus occurring without modifying wavefront phase.

4 Claims, 36 Drawing Sheets

