



(12) **United States Patent**
Zalevsky et al.

(10) **Patent No.:** **US 9,429,768 B2**
(45) **Date of Patent:** **Aug. 30, 2016**

(54) **IMAGING METHOD AND SYSTEM WITH OPTIMIZED EXTENDED DEPTH OF FOCUS**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/540,693**

(22) Filed: **Nov. 13, 2014**

(65) **Prior Publication Data**

US 2015/0070766 A1 Mar. 12, 2015
US 2016/0139424 A9 May 19, 2016

Related U.S. Application Data

(63) Continuation of application No. 13/970,987, filed on
Aug. 20, 2013, now Pat. No. 8,913,331, which is a
continuation of application No. 12/781,428, filed on
May 17, 2010, now Pat. No. 8,531,783.

(60) Provisional application No. 61/302,588, filed on Feb.
9, 2010.

(51) **Int. Cl.**
G02B 9/00 (2006.01)
G02B 5/18 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC **G02C 7/022** (2013.01); **A61F 2/16**
(2013.01); **A61F 2/1648** (2013.01); **G02B 5/18**
(2013.01);

(Continued)

(58) **Field of Classification Search**
USPC 359/558, 642, 738, 739
See application file for complete search history.

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(57) **ABSTRACT**

An optical processor is presented for applying optical pro-
cessing to a light field passing through a predetermined
imaging lens unit. The optical processor comprises a pattern
in the form of spaced apart regions of different optical
properties. The pattern is configured to define a phase coder,
and a dispersion profile coder. The phase coder affects
profiles of Through Focus Modulation Transfer Function
(TFMTF) for different wavelength components of the light
field in accordance with a predetermined profile of an
extended depth of focusing to be obtained by the imaging
lens unit. The dispersion profile coder is configured in
accordance with the imaging lens unit and the predetermined
profile of the extended depth of focusing to provide a
predetermined overlapping between said TFMTF profiles
within said predetermined profile of the extended depth of
focusing.

20 Claims, 5 Drawing Sheets

