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[Continued on next page]

- (54) Title: A METHOD AND SYSTEM FOR EXTENDED DEPTH OF FIELD CALCULATION FOR MICROSCOPIC IMAGES

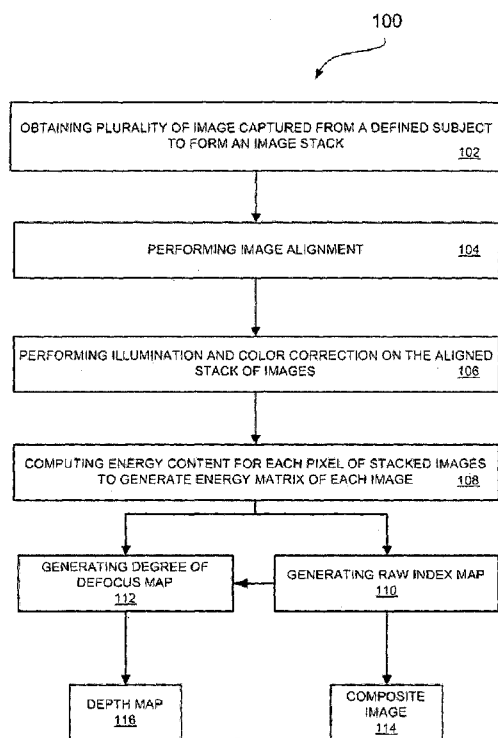


FIG. 1

(57) Abstract: The invention relates to an image processing method and system for constructing composite image with extended depth of field. The composite image may be constructed from a plurality of source images of a scene stored in an image stack. The method includes aligning the images in the image stack such that every image in the image stack is aligned with other images in the stack, performing illumination and color correction on the aligned images in the image stack, generating an energy matrix for each pixel of each illumination and color corrected image in the image stack by computing energy content for each pixel, generating a raw index map that contains the location of every pixels having maximum energy level among all the images in the image stack, generating degree of defocus map and constructing the composite image.



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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - G06T 5/50 (2015.01)
 CPC - G06T 7/0069 (2015.04)
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) - G06T 5/00; G06T 5/50 (2015.01)
 USPC - 382/234, 254, 284.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 CPC - G06T 5/50; G06T 7/0069 (2015.04) (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PatBase, Google Patents, Google Scholar
 Search terms used: depth of field, pixel, energy, intensity, illumination, color, correction, calibration, reference, blur, defocus, maximum, brightness, chroma

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	US 6,201,899 B1 (BERGEN) 13 March 2001 (13.03.2001) entire document	1, 11-14 ----- 2-10
Y --- A	US 2004/0234155 A1 (HOSHUYAMA) 25 November 2004 (25.11.2004) entire document	1, 11-14 ----- 2-10
Y --- A	WO 2009/108050 A9 (SIMONOV) 03 September 2009 (03.09.2009) entire document	1, 11-14 ----- 2-10
A	US 2008/0212168 A1 (OLMSTEAD et al) 04 September 2008 (04.09.2008) entire document	1, 11-14
A	US 2008/0234984 A1 (ORTYN et al) 25 September 2008 (25.09.2008) entire document	1, 11-14
A	US 2001/0036307 A1 (HANNA et al) 01 November 2001 (01.11.2001) entire document	1, 11-14

Further documents are listed in the continuation of Box C. See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed	

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