METHOD AND APPARATUS FOR DETERMINING THE STRAY-LIGHT POINT-SPREAD FUNCTION OF AN IMAGING SYSTEM

A method (86) of determining the point-spread function (PSF) (22) of an imaging system (14) includes the steps of capturing image data (88), establishing an idealized source spot (92), establishing a functional form model (96), subtracting the captured image (130) from the estimated image equation (94) and determining a metric (104) that measures the fit of the estimated image (96) to the captured image (130). The functional form model (96) may include both diffraction and aberration (100) and stray light (98). The functional form model (96) may be optimized (102) to reduce the metric (104) to an acceptable level.
INTERNATIONAL SEARCH REPORT

A CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06K 9/40 (2008.04)
USPC - 382/260; 358/3.26
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)
USPC- 382/260, 358/3 26, IPC(8)- G06K 2008 04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC- 382/274, 252, 358/3 27, 463, 520

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (DB=USPT, USOC, PGPB, EPAB, JPAB), Google Scholar
Search Terms: PSF, point spread function, iterate, subtraxt, variant, shift variant, functional form model, rotation or rotatable invariant, stray light, flux, threshold, idealized spot source

C DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<tbody>
<tr>
<td>A</td>
<td>US 6,829,393 B2 (JANSSON) 07 Dec 2004 (07 12 2004), entire document</td>
<td>1-20</td>
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Further documents are listed in the continuation of Box C

Date of the actual completion of the international search 01 July 2008 (01 07 2008)

Date of mailing of the international search report 09 JUL 2008

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Authorized officer Lee W Young
PCT/US 08/51397
PCT/ISA/210 (second sheet) (April 2007)