DETECTING DEFECTS ON SPECIMEN USING COMBINATION OF BRIGHT AND DARK FIELD CHANNEL DATA

Various methods, carrier media, and systems for detecting defects on a specimen using a combination of bright field channel data and dark field channel data are provided. One computer-implemented method includes combining pixel-level data acquired for the specimen by a bright field channel and a dark field channel of an inspection system. The method also includes detecting defects on the specimen by applying a two-dimensional threshold to the combined data. The two-dimensional threshold is defined as a function of a threshold for the data acquired by the bright field channel and a threshold for the data acquired by the dark field channel.
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A CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G06F 15/00 (2008.01)
USPC - 702/189

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 702/189

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB,USPT,EPAB,JPAB), Google Scholar
Search Terms inspection system, detection system, detect defect, detect flaw, pixel-level, pixel level, bright field, bright channel, dark field, dark channel, two-dimensional threshold, two dimensional threshold, combined data, function threshold, deep ultraviolet spectrum,
et

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>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2002/0107650 A1 (WACK et al.) 08 August 2002 (08 08 2002), abstract and para [0011], [0047], [0000], [0091], [0157], [0168]-[0169], [0190], [0193], [0198], [0202], [0204], [0207]-[0211], [0218]-[0224], [0234], [0265], [0278], [0286], [0378]-[0380], [0423], [0496]-[0504],[0523],[0546]</td>
<td>1-2, 5-12 and 15-22</td>
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<td>3-4 and 13-14</td>
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Date of the actual completion of the international search
08 January 2008 (08 01 2008)

Date of mailing of the international search report
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