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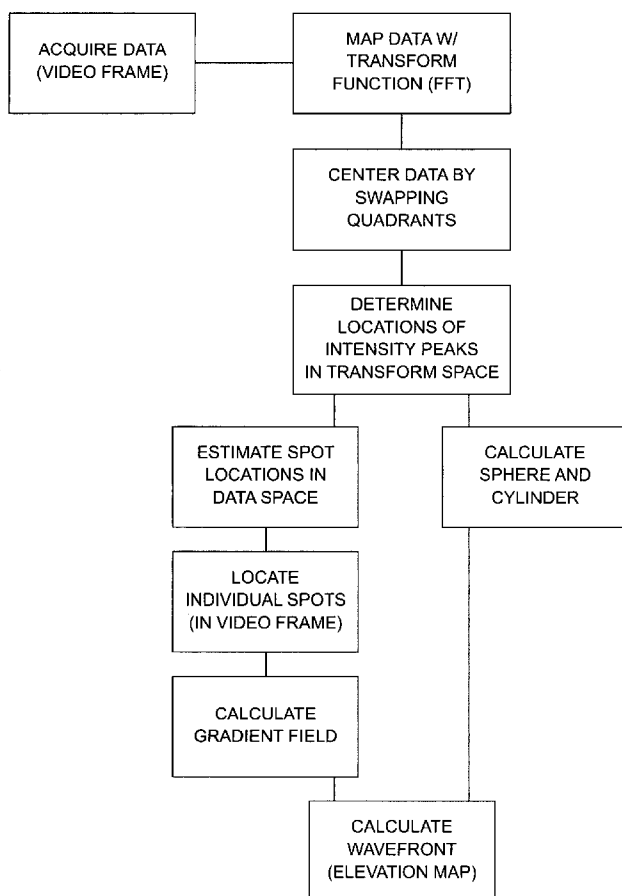
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Court, Berkeley, California 94705 (US).
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(54) Title: SPATIAL FREQUENCY WAVEFRONT SENSOR SYSTEM AND METHOD



(57) Abstract: Devices systems, and methods can characterize an optical surface of an object. A wavefront sensor system focuses light energy propagating from the object to form a pattern on a detector. The system maps the pattern to an array with a transform function such as a Fourier transform. The values of array correspond to characteristic locations and signals in a transform space, for example an intensity of spatial frequency signals in frequency space. The characteristic location and intensity of these signals in transform space are used to measure the optical surface. For example, a characteristic frequency of a spatial frequency intensity peak in Fourier transform space can be used to estimate the location of spots on the detector. Alternatively, the characteristics can be used to the measure sphere, cylinder and axis of a wavefront, wavefront elevation maps and point spread functions, often without locating positions of individual spots on the detector.

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**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
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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 practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	EP 1 324 015 A (ROTFLEX 1994 LTD [IL]) 2 July 2003 (2003-07-02) paragraph [0032] - paragraph [0062]; figures 3-7	1-11, 15-17
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## INTERNATIONAL SEARCH REPORT

International application No

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Information on patent family members

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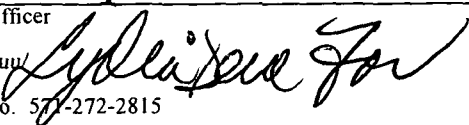
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## INTERNATIONAL SEARCH REPORT

International application No.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC: <b>G01J 1/20</b> ( 2006.01); <b>G06K 9/36</b> ( 2006.01); <b>G01B 11/02</b> ( 2006.01)  USPC:       250/201.9;382/280;356/512 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 250/201.9; 382/280; 356/512; 606/4-6  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) EAST		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/0007603 A1 (ARIELI et al.) 13 January 2005 (13.01.2005), Figs. 1 and 2.	1, 3, 7, 8, 15-17
X	US 2005/0012898 A1 (CHERNYAK et al.) 20 January 2005 (20.01.2005), Figs. 1-5.	1-3, 6, 7, 11, 15-17
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