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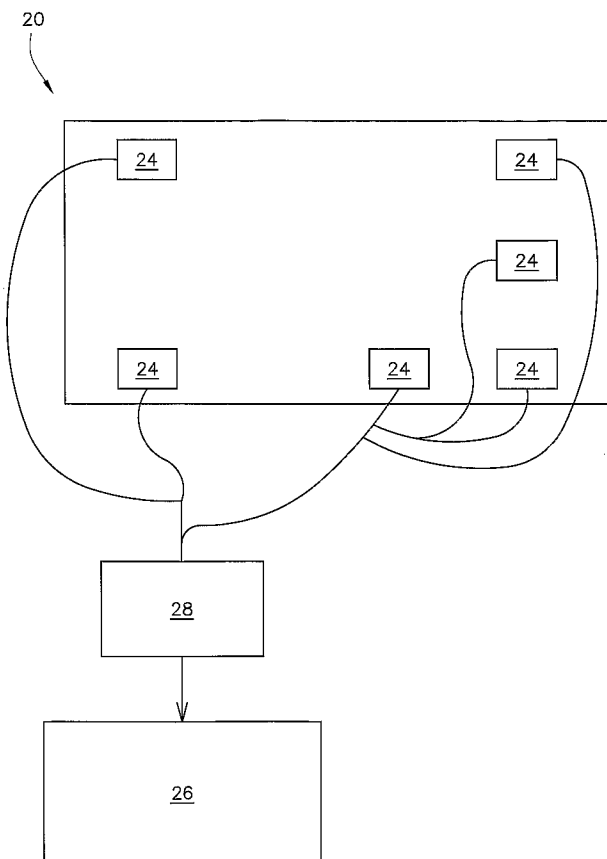
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[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR MONITORING STRUCTURAL DAMAGE



(57) Abstract: A method for monitoring damage to a structure having an actuator and a sensor. The method includes exciting the actuator across a predetermined frequency range to excite the structure, measuring a vibrational characteristic of the structure across the predetermined frequency range in response to the excitation of the actuator using the sensor, calculating a transfer function for the actuator and the sensor using the measured vibrational characteristic, determining a change in the vibrational characteristic across the predetermined frequency range using the transfer function, and analyzing the determined change in the vibrational characteristic across the predetermined frequency range to facilitate determining whether the structure is damaged.

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**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. G01N29/12 G01N29/34 G01N29/42

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

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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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 006 163 A (LICHTENWALNER PETER F [US] ET AL) 21 December 1999 (1999-12-21) column 3, line 62 - column 4, line 41; figure 1 column 5, line 55 - column 6, line 58	1-20
A	US 5 195 046 A (GERARDI JOSEPH J [US] ET AL) 16 March 1993 (1993-03-16) column 2, line 13 - line 26 column 3, line 9 - column 4, line 32 column 4, line 59 - column 5, line 2	1-20
A	WO 2005/031501 A (HYEUNG-YUN KIM [US]) 7 April 2005 (2005-04-07) page 4, line 17 - page 5, line 30; figures	1-20

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

- \* Special categories of cited documents :
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Savage, John
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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