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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR DIAGNOSTICS AND PROGNOSTICS OF A MECHANICAL SYSTEM

(57) Abstract: A vibrational analysis system diagnosis the health of a mechanical system by reference to vibration signature data from multiple domains. Features are extracted from signature data by reference to pointer locations. The features provide an indication of signature deviation from a baseline signature in the observed domain. Several features applicable to a desired fault are aggregated to provide an indication of the likelihood that the fault has manifested in the observed mechanical system. The system may also be used for trend analysis of the health of the mechanical system.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/01107

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 11/30, G06F 15/00; G21C 17/00
 US CL : 702/184

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)

U.S. : 702/184, 182, 183, 185, 150, 122, 81, 77, 56, 54; 700/38, 279, 280, 287; 290/408; 701/120; 244/1N; 340/945, 706/52

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0038199 A1 (BLEMEL) 28 March 2002 (28.03.2002), see entire document.	1-7, 10-13
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Y		8, 9
Y	US 5,600,576 A (BROADWATER et al) 04 February 1997 (04.02.1997), see col. 9 lines 29-46.	8
Y, E	US 2004/0003318 A1 (FELKE et al) 01 January 2004 (01.01.2004), see abstract lines 1-12, paragraphs 0006, 0007, 0022, 0076-0078.	9
A, P	US 2003/0083794 A1 (HALM et al) 01 May 2003 (01.05.2003), see entire document.	1-13
A	US 6/301/572 B1 (HARRISON) 09 October 2001 (09.10.2001), see entire document.	1-13
A	US 6,027,239 A (GHASSAED) 22 February 2000 (22.02.2000), see entire document.	1-13
A	US 5,768,124 A (STOTHERS et al) 16 June 1998 (16.06.1998), see entire document.	1-13
A	US 5,150,855 A (KAPTEIN) 29 September 1992 (29.09.1992), see entire document.	1-13

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

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,551,649 A (KAPTEIN) 03 September 1996 (03.09.1996), see entire document.	1-13
A	US 5,526,292 A (HODGSON et al) 11 June 1996 (11.06.1996), see entire document.	1-13
A	US 5,519,637 A (MATHUR) 21 May 1996 (21.05.1996), see entire document.	1-13

INTERNATIONAL SEARCH REPORT

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Continuation of B. FIELDS SEARCHED Item 3:

EAST; USPAT; US-PGPUB; EPO; JPO; DERWENT; (700/\$.ccls. or 714/\$.ccls. or 340/\$.ccls. or 702/182-185.ccls.) and aircraft with engine\$1 and vibrat\$3 with sensor\$1 and (fail\$3 or error\$1 or problem\$1 or fault\$1 or malfunction\$1 or breakage\$1 or breakdown\$1)