

Title (en)
MONITORING STRUCTURES

Title (de)
ÜBERWACHUNG VON STRUKTUREN

Title (fr)
SURVEILLANCE DE STRUCTURES

Publication
EP 1320748 A1 20030625 (EN)

Application
EP 01945516 A 20010704

Priority
• GB 0102992 W 20010704
• GB 0020655 A 20000823

Abstract (en)
[origin: WO0216926A1] Offshore oil and gas exploration and production companies maintain large open lattice structures that are mostly underwater. To extend the design life of these structures requires a method to monitor a structure so as to give advance warning before a structural member (18, 19) or (20) should fail. The method proposed by the invention measures the vibration response at a number of points 17 distributed around the structure to forces input 15 in the acoustic range up to about 20kHz at a much smaller number of points. The time of arrival, magnitude and phase of the pulses (11, 12, 13) and (14) at the response points 17 change in a manner that is sufficient to indicate the presence of a substantial crack in one of the members and is sufficient to indicate the location of that defect. The influence of changes in supported mass is removed by effectively isolating the variable mass with additional actuator groups placed between the supported mass and the main structure actively controlled so as to make this cross-section behave as a

IPC 1-7
G01N 29/14; G01M 7/00

IPC 8 full level
G01N 29/12 (2006.01); **G01N 29/34** (2006.01); **G01N 29/46** (2006.01)

CPC (source: EP)
G01N 29/12 (2013.01); **G01N 29/348** (2013.01); **G01N 29/46** (2013.01); **G01N 2291/011** (2013.01); **G01N 2291/012** (2013.01); **G01N 2291/015** (2013.01); **G01N 2291/105** (2013.01)

Citation (search report)
See references of WO 0216926A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 0216926 A1 20020228; AU 6773101 A 20020304; EP 1320748 A1 20030625; GB 0020655 D0 20001011; GB 2366382 A 20020306

DOCDB simple family (application)
GB 0102992 W 20010704; AU 6773101 A 20010704; EP 01945516 A 20010704; GB 0020655 A 20000823