

SYSTEM AND METHOD FOR MONITORING MECHANICALLY COUPLED STRUCTURES

Abstract

A system for monitoring a mechanically coupled structure (101, 403, 502, 506, 602) is provided with a first sensor (102) configured to determine at predetermined times its orientation relative to Earth's rotation axis (202) as a first measurement, wherein the first sensor (102) is connectable with a first part of the mechanically coupled structure (101, 403, 502, 506, 602), with at least one second sensor (104, 402, 504, 604), which has a known first orientation to the first sensor (102) at startup of the system and which is configured to determine a rotation rate or an acceleration as a second measurement, wherein the at least one second sensor (104, 402, 504, 604) is connectable with a second part of the mechanically coupled structure (101, 403, 502, 506, 602), with a central unit (106), and with a communication network (108) over which the central unit (106) is connected with the first sensor (102) and the second sensor (104, 402, 504, 604), wherein the first sensor (102) is configured to transmit the first measurement to the central unit (106), the second sensor (104, 402, 504, 604) is configured to transmit the second measurement to the central unit (106), and the central unit (106) is configured to monitor the mechanically coupled structure (101, 403, 502, 506, 602) by means of the first and second measurement.

(Fig. 1)