2020-21

Sl. No. 97 (2021)

Inline and crossflow response interactions during vortex induced vibration of marine risers

2018-19

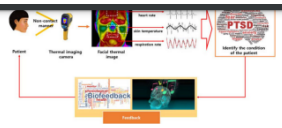


Figure 1 Overall flow of proposed method for measuring autonomic nervous system response using single thermal imaging camera.

010 | Hybrid brainactuated muscle interface for the physically disabled

P.G. Vinoj[1]; Sunil Jacob[2]; Varun G. Menon[3]
[1]*Electronics and Communication Engineering Department, APJ Abdul Kalam Technological University, India;* [2]*Centre for Robotics, SCMS School of Engineering and Technology, India;* [3]*Computer Science Engineering Department, SCMS School of Engineering and Technology, India*

Objectives: According to Reeve Foundation 29% of paralysis is due to stroke followed by injury in the spinal cord. Sometimes it may be difficult for a person to move the paralyzed person's body part as it may be too stiff. Our research focuses on actuating the paralyzed person's body part through his own thought process using Brain-Muscle Interface. The system uses Novel Technique which avoids the use of Exo-Skeleton.

Methods: In our current work, we propose a Hybrid Brain-Muscle Interface (HBMI) for the paralyzed person. The HBMI interface should have the provision for pre-processing, classifying, recording and training multidimensional EEG signals. The classifier module and the pre-processor module were implemented separately for easy testing and modification of different phases. The electrical signal from brain is captured using EEG and must be recorded during voluntary movement. When the brain does real time activities it must be detected and categorized into two dimensional movements. The non-invasive technique of recording EEG from the scalp is used for analyzing brain activity. This technique reduces the human mental workload and cost compared to invasive Technique. The excitation of the neurons is done using External audio and video feedback. The accuracy of the system is improved by combining Steady State Visually Evoked Potential (SSVEP) and Event Related Desynchronization (ERD) signals.

Results: The person suffering with Amyotrophic Lateral Sclerosis (ALS) is interfaced with HBMI. The HBMI generate electrical stimulation based on the subject's thought processing and in response to the stimulus the subject under test perform the desired movements of his/her body part. During the operation, the HBMI record the EEG signals, process it and classify it to different desired movements. The recorded operation is compared with the actual operations. The performance accuracy is measured. The

011 | Seismocardiography system based on micromechanical sensors

Alexander Levkovich[1]; Vladimir Achildiev[1]; Viktor Soldatenkov[1]; Mikhael Basarab[2]; Nicolay Bedro[1]; Yury Gruzevich[1,2]; Yuliya Evseeva[1]; Natalya Konnova[2]; Mariya Komarova[1]
[1]*Scientific Production Unity "GEOPHIZIKA-NV", St. Company, Moscow, Russia;* [2]*Bauman Moscow State Technical University, Moscow, Russia*

Alexander Levkovich[1]; Vladimir Achildiev[1]; Viktor Soldatenkov[1]; Mikhael Basarab[2]; Nicolay Bedro[1]; Yury Gruzevich[1,2]; Yuliya Evseeva[1]; Natalya Konnova[2]; Mariya Komarova[1]
[1]*Scientific Production Unity "GEOPHIZIKA-NV", St. Company, Moscow, Russia;* [2]*Bauman Moscow State Technical University, Moscow, Russia*

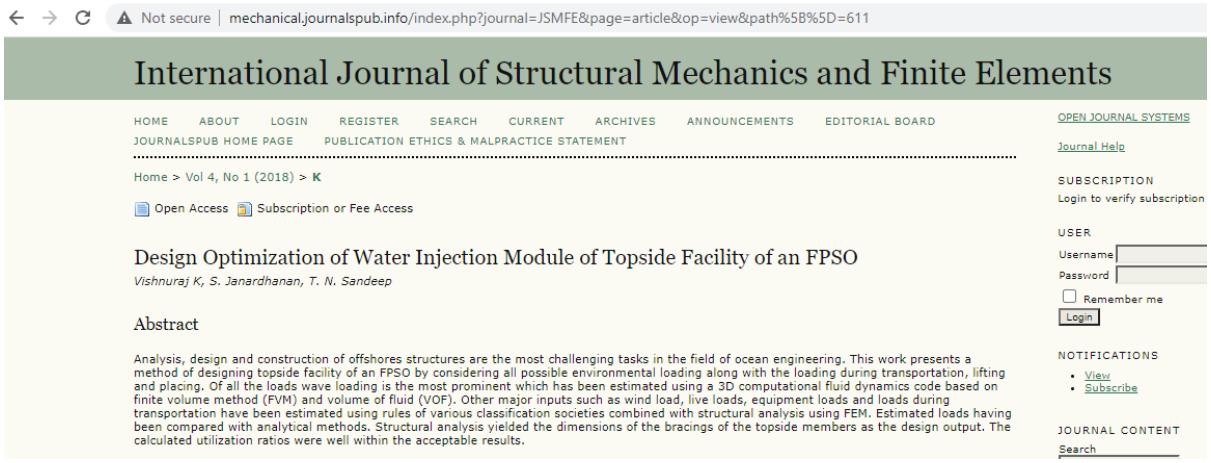
Objectives: The purpose is to develop new equipment and algorithm for non-invasive diagnostics based on the seismocardiography (SCG) method.

Methods: SCG method is based on the recording of mechanical vibrations of the chest that are associated with the activity of the heart and is used to investigate the *strength* of the heartbeat and perform the analysis of the cardiac cycle.

Results: The SCG signal is significantly different in its view from the electrocardiogram and carries much more information. As supposed, SCG will significantly increase the number of diagnosed diseases with higher accuracy. The basis of the *SCG system* is a micro-vibration sensor based on microelectromechanical (MEMS) accelerometers. To eliminate the effect of angular vibrations on the data samples from accelerometers a new design of SCG system is proposed that include MEMS gyroscopes for the angular rate measurement in addition to MEMS accelerometers. The design of the *SCG system* includes a three-axis MEMS accelerometer unit and a three-axis MEMS angular velocity unit, a microcontroller and other necessary chips and elements. To provide high performance and small processing time, a microcontroller with high clock frequency is selected, and commands and data are received and transmitted via the built-in RS-422/485 interface or bluetooth

Sl No 41 (2018)

Design Optimization of Water Injection Module of Topside Facility of an FPSO



2017-18

2017-18

Sl. No. (7) Effect of Copper Slag and Granite Powder on the Mechanical Properties of Reclaimed Asphalt Pavement Aggregate Concrete

International Journal of Sustainable Construction Engineering & Technology (ISSN: 2180-3242)
Vol 9, No 2, 2018

Effect of Copper Slag and Granite Powder on the Mechanical Properties of Reclaimed Asphalt Pavement Aggregate Concrete

T.Mahitha[1], J. Aswini [2]

[1,2] Department of civil engineering, APJ Abdul Kalam Technological University, Calicut, India

*Corresponding E-mail: mahi.thodiyil@gmail.com

Received 24 May 2018; Revised 20 November 2018; Accepted 5 December 2018

DOI: https://10.30880/ijscet.2018.09.02.001

2016-17

2016-17

Sl. No .(8) Identifying an Ideal Bio- Indicator from Indian Freshwaters to Use in Automated Bio-Monitor

IFERP International Journal of Science, Engineering and Management [IJSEM]

Identifying an Ideal Bio-Indicator from Indian Freshwaters to Use in Automated Bio-Monitor

[1] Merin Mathew [2] Anju Theresa Antony [3] Sunny George [4] Ratish Menon
SCMS Water Institute, SCMS School of Engineering and Technology, Karukkutty.
[1] merinjesusan@gmail.com [2] anjuanooja2000@gmail.com
[3] sunnygeorge@scmsgroup.org [4] ratishmenon@scmsgroup.org

Sl. No. 30 (2016)

Design and Fabrication of a Bio-Inspited Fish-Shaped Autonomous Underwater Vehicle