World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Development of a BriMAIN System for Health Monitoring of Railway Bridges

Authors : Prakher Mishra, Dikshant Bodana, Saloni Desai, Sudhanshu Dixit, Sopan Agarwal, Shriraj Patel

Abstract : Railways are sometimes lifeline of nations as they consist of huge network of rail lines and bridges. Reportedly many of the bridges are aging, weak, distressed and accident prone. It becomes a really challenging task for Engineers and workers to keep up a regular maintenance schedule for proper functioning which itself is quite a hard hitting job. In this paper we have come up with an innvovative wireless system of maintenance called BriMAIN. In this system we have installed two types of sensors, first one is called a force sensor which will continously analyse the readings of pressure at joints of the bridges and secondly an MPU-6050 triaxial gyroscope+accelerometer which will analyse the deflection of the deck of the bridge. Apart from this a separate database is also being made at the server room so that the data can be visualized by the engineers and a warning can be issued in case reading of the sensors goes above threshold.

Keywords : Accelerometer, B-MAIN, Gyroscope, MPU-6050
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020