Structural Health Monitoring System of the Thuan Phuoc Suspension Bridge uses Internet of Things and Artificial Intelligence Technology in Viet Nam

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**Abstract.** In Viet Nam, one of the most important matters about The Large Bridge Construction is longevity during the exploitation phase and structural resistance to wind storms. System of Structural Healthy Monitoring such as solution to the this problem. This article gives information about Structural Health Monitoring (SHM) system on Thuan Phuoc Suspension Bridge in Viet Nam. Some dangerous phenomena occur only under the combination of certain practical conditions such as the vibration of stay cables due to combined wind and rain in storms, earthquakes… Installation system include sensor, controller and software get data about vibration frequency, stress, strain and temperature values in structural components to monitor the behavior of structures during exploitation, analysis and evaluation is important from that. The monitoring system will provide a comprehensive assessment of the state of the structure, as well as possible early detection of abnormalities to take appropriate measures in time, avoiding unfortunate consequences.

**Keywords:** Structural Longevity; Thuan Phuoc Suspension Bridge; Structural Health Monitoring System (SHMS); Sensor; Controller; Website Monitor; Internet of Things (IoT), Artificial Intelligence (AI), Fast Fourier Transform (FFT).