Abstract

A bridge is a building built across a river or other traffic barrier, so that if a bridge is damaged it will greatly disturb traffic comfort. Structural Health Monitoring (SHM) is a science that aims to detect damage by integrating it into a structure to monitor the health of a building. This technology can extend the service life of a building because capacity reduction and damage can be identified early (early warning) before more serious damage occurs and requires greater rehabilitation costs. SHM is defined as undamaged sensing and structural character analysis including structural response to detect changes that indicate structural damage or deterioration. The problems that arise are because the checking process is still manual and the data obtained is sometimes inaccurate. So the development of a system that implements Structural Health Monitoring (SHM) as a damage detection application, based on the results of the normal bridge natural frequency scenario is 11.22053571 Hz and for the one-spring break bridge scenario is 10.39553571 Hz, and the tests that have been built are the average natural frequency in the scenario Normal bridges with full and empty load variations are obtained at 12.74877731 Hz and in the scenario of one spring damaged bridge with full and empty load variations of 10.2990219 Hz.