

Static Load Experiment

Our device was inserted into a collet block and then clamped onto a table in order to apply a stable load to the bottom of the structure. An excitation voltage of 3.3VDC was attached to the Wheatstone circuits, and measurements were taken at the output of each Wheatstone circuit before any amplification. Under no load conditions, a multimeter was used to measure the differential voltage of the positive and negative leads of the Wheatstone Bridges.

A 25lb load was applied to the bottom of the structure by placing the center hole of the weight to balance on the device. The multimeter was used to measure the differential again, but the measured output with load only changed by around 7 micro-volts.

This output is not ideal and inconclusive because at our sampling frequency we run into attenuation very early, and it isn't enough of a differential to amplify. This test lead us to try our rotational load experiment.