

Automated Structural Damage Detection for a Simple Beam Structure using Deep Convolutional LSTM

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ABSTRACT

Structural damage detection is still a challenging problem due to the difficulty of extracting damage features from structures. This study presents damage detection approach to automatically identify damage locations from a set of acceleration responses using deep convolutional LSTM. The proposed method compares the frequency-domain responses from undamaged and damaged states, and output damage location of quantity. The proposed method has been numerically and experimentally validated on a simple beam structures to investigate the accuracy and robustness for damage identification, taking into consideration of uncertainties in the model information.

REFERENCES

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