Web Flutter Measurement Sensor

Article

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Abstract

A novel sensor to measure web flutter is proposed in this letter. The sensing principle is based on scattering of light and directionally sensitive coupling properties of optical fibers. A linear array of optical fibers, oriented appropriately, is used to collect light scattered from a web. The flutter amplitude is determined by observing the amount of light transmitted by the fibers in the fiber array. Experiments were conducted to demonstrate the ability of the proposed sensing strategy in measuring web flutter with different kinds of web material.
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