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Abstract
Active control technology is applied on the vibration suppression of a micron positioning stage. The frequency range of vibration to control is 0～40Hz（especially lower than 10Hz）, and the amplitude is lower than 20um（peak value）. This control system applies Filtered-X LMS adaptive algorithm as the controller, and uses the vibration signal measured by accelerometer as input signal to generate a control signal that drives piezoelectric actuator to produce anti-force to suppress vibration of the micron positioning stage. In experiment, we apply LabVIEW software to develop the Adaptive control algorithm, and operate it by PC with a DAQ card. The results show that 20 dB of vibration reduction can be achieved by active control。
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