

Ultra-Wide Bandgap in a Two Dimensional Metamaterial Embedded with Acoustic Black Hole Structures

Xiaofei lyu ¹, Qian Ding ^{1,2,*}, Zhisai Ma ^{1,2} and Tianzhi Yang ^{3,*}

¹ Department of Mechanics, Tianjin University, Tianjin 300350, China

² Tianjin Key Laboratory of Nonlinear Dynamics and Control, Tianjin 300350, China

³ School of Mechanical Engineering and Automation, Northeastern University, Shenyang 110819, China

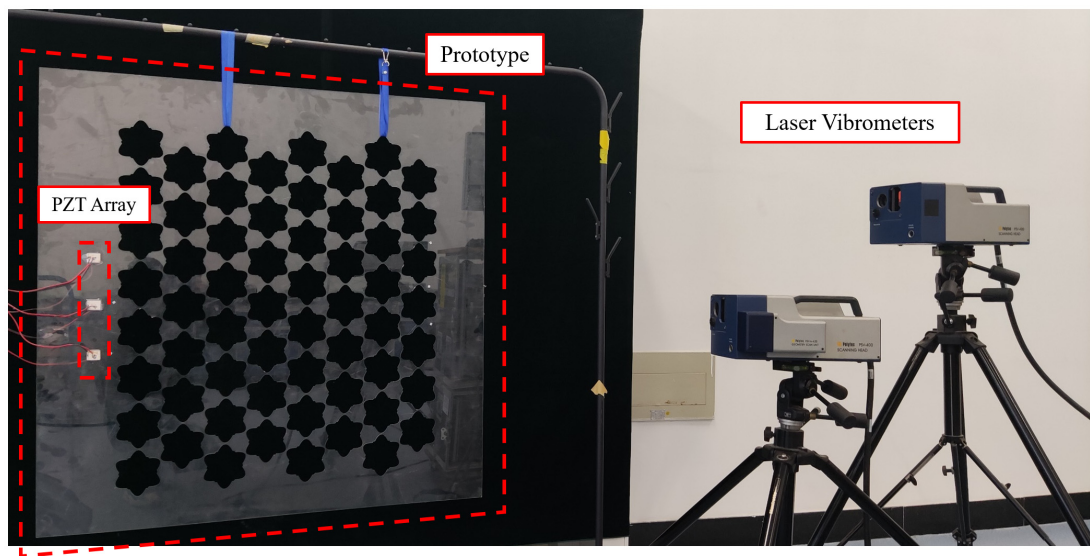


Figure S1. The experimental setup. The prototype is supported with two strings to mimic free boundaries. 6 PZT-5H chips are pasted on the left of the plate, and each two chips are located in the same position on both sides of the plate. A periodic chirp signal from 0 to 20 kHz was applied to the PZT array. The response signals of two measuring points are measured by two laser vibrometers.