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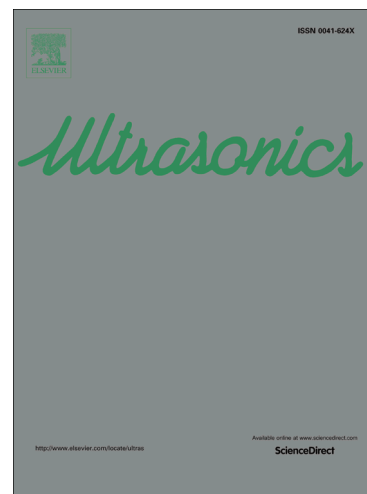
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Enhancement of backward second harmonic generation of acoustic waves in a resonant cavity by using a superlattice

Shi Chen^{*}, Wenxu Hu, Chenghui Wang, Changchun Hao, Zhen Xu, Yinhong Zhang, and Shuyu Lin

Applied Acoustics Institute, Shaanxi Normal University, Shaanxi Key Laboratory of Ultrasound, Xian, Shaanxi 710062, China

In this paper, the enhancement effect of backward second harmonic generation of acoustic waves in the system, consisting of a linear solid superlattice and a nonlinear liquid resonant cavity, is investigated analytically and numerically. Results show the nonlinear effect in the system can be enhanced drastically due to the existence of defective modes and the large acoustic impedance mismatching between solids and liquids. Because of the latter, the dual-resonance phenomenon can always take place approximately and automatically. These results are different from previous conclusions in optical fields.

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^{*}Corresponding author
E-mail address: chenshi@snnu.edu.cn (S. Chen)

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