

Abstract Submitted  
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**Pseudomagnetic fields for sound at the nanoscale** CHRISTIAN  
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ogy, FLORIAN MARQUARDT, Max Planck Institute for the Science of Light (Er-  
langen) — There is a growing effort in creating chiral transport of sound waves.  
However, most approaches so far are confined to the macroscopic scale. Here, we  
propose a new approach suitable to the nanoscale which is based on pseudo-magnetic  
fields. These fields are the analogue for sound of the pseudo-magnetic field for elec-  
trons in strained graphene. In our proposal, they are created by simple geometrical  
modifications of an existing and experimentally proven phononic crystal design, the  
snowflake crystal. This platform is robust, scalable, and well-suited for a variety of  
excitation and readout mechanisms, among them optomechanical approaches.

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