## The design of 2D isotropic acoustic metamaterials

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## Summary

Recently, many interesting conceptual devices have been proposed to manipulate the propagation of acoustic waves at will. This is mostly achieved through acoustic metamaterials designed by the coordinate transformation method [1]. However, such materials are usually required to be anisotropic and inhomogeneous, which hampers their realization in practice.

In this talk, we are going to introduce conformal mapping based transformation acoustics for 2D cases [2]. In this way, the resultant metamaterial parameters are isotropic, which greatly facilitates their implementation. keywordtransformation acoustics; metamaterial; conformal mapping

## References

1. Chen HY, Chan CT. Acoustic cloaking and transformation acoustics. Journal of Physics D: Applied Physics 43; 2010: 113001.

2. Ren CY, Xiang ZH, Cen ZZ. Design of acoustic devices with isotropic material via conformal transformation. Applied Physics Letters 97; 2010: 044101.