

# ON THE TRANSMISSION EIGENVALUE PROBLEM FOR THE ACOUSTIC EQUATION WITH A NEGATIVE INDEX OF REFRACTION AND A PRACTICAL NUMERICAL RECONSTRUCTION METHOD

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## 摘要

In this work, we consider the two-dimensional Maxwell's equations with the TM mode in pseudo-chiral media. The system can be reduced to the acoustic equation with a negative index of refraction. We first study the transmission eigenvalue problem (TEP) for this equation. We present a practical numerical method to reconstruct the support of the inhomogeneity by the near-field measurements, i.e., Cauchy data. Numerical results show that our method is able to reconstruct the support reliably.