



Two Far-field Focusing Flat Lenses

Technology Summary

This invention describes a design methodology for creating a “flat lens,” or a lens that has flat and parallel surfaces, while still allowing for conversions between diverging, planar, and converging waves. These lenses do not require curved surfaces to obtain the same kind of performance as curved lenses. A variety of materials, including metamaterials and positive index materials, can be used to create these lenses.

Application & Market Utility

Would allow the use of a flat lens in place of a curved lens for a wide array of applications, including radar, optical instruments and devices, ultrasound, optical source focusing, etc. Flat lens design can be applied to a wide range of frequencies. Lens materials can be metamaterials, dielectrics (such as glass), and plastics. Lenses can be used for electromagnetic or acoustic waves. Losses due to reflection can be significantly reduced. Does not require the use of negative index of refraction materials.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Investment | Licensing | Research

Keywords

- lenses
- metamaterial

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