

Parameter Measurements, Extraction and Interpretation

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Accessible Data

- Reflectivity and Transmission measurements from layers
- Some ray optics
- Subwavelength measurements
- Transmission-line measurements
- Superlens and hyperlens measurements
- Cloaking?
- Nonlinearity and tunability
- Loss control

Data Analysis

- We need to examine our concepts
- Is refractive index a top priority?
- Evidence of optical magnetism
- Isotropic or anisotropic approaches?
- Support for a wide range of metamaterial structures
- What kind of control can be implied?

Computational Strategy

- We need advanced designs
- Metamaterials in integrated systems can cause computational difficulties
- We need genetic algorithms
- Fitness functions are hard to devise
- FDTD looks promising
- Three dimensional problems are a challenging combination of FDTD and finite element approaches