

Introduction to Metamaterials

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Imagine being able to create materials that respond to light in ways that have never been observed in nature. At the start of this century, such possibilities became reality with the advent of metamaterials. This resulted in the observation of new phenomena including cloaking, negative refractive index, and perfect absorption. The subwavelength “atoms” that enable this are nothing more than LC circuits. The “trick” is to put these LC circuits into periodic arrays to obtain a desired response. In this talk, I will introduce this emerging field of research.