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Thesis Title	<i>Study of 3D Metamaterials</i>
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Summary	<p>Metamaterials are artificially structured materials that attain their properties not by the fundamental physical properties of their constituents, but rather by the shape and distribution of the specific patterns included in them. Metamaterial-based devices are particularly attractive in the terahertz frequency range due to the lack of suitable natural materials for terahertz device applications.</p> <p>In the present thesis, we study theoretically a broadband, THz, linear polarization transforming device using the polarizability dyadic formalism. By performing simulations, we find relations between the polarizability dyadics and we end up in a realistic design for a free standing structure. Finally, we fabricate the desired structure using the direct laser writing technique, which offers us the possibility of creating complicated 3d structures with subwavelength accuracy.</p>
Key words	Metamaterials, Polarization transformation, Direct Laser Writing, Photopolymerization, Polarizability Dyadics
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