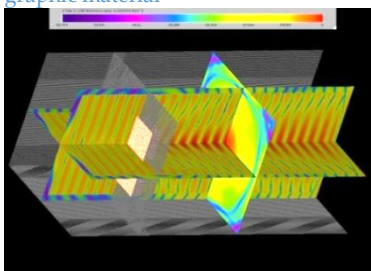
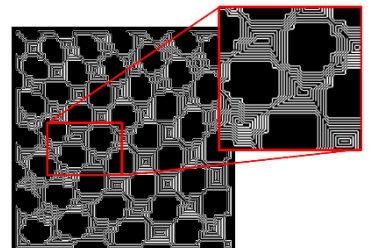




POLISH NATIONAL AGENCY
FOR ACADEMIC EXCHANGE



STER
PROGRAMME

unit name: TELECOMMUNICATIONS DIVISON Institute of Electronics of the Technical University of Lodz		symbol: I-23 http://www.eletel.p.lodz.pl
Manager: Sławomir Hausman, PhD, DSc	potential promoters: Sławomir Hausman, PhD, DSc	contact person: Sławomir Hausman, PhD, DSc Phone: +48 42 631-26-36 slawomir.hausman@p.lodz.pl
scope of activity: - Modelling with full-wave simulation methods and design of 2D and 3D electromagnetic metamaterials; - Circuit-equivalent models of resonator arrays for effective optimisation, e.g. frequency band broadening of EBG or AMC materials;		graphic material  
current activities: - Development of optimised algorithms for printing gradient 3D dielectric metamaterials with complex internal structures, bypassing typical (but print quality-limiting) data formats such as STL; - Design and optimisation (using genetic algorithms) of metamaterial structures for applications such as flat lenses (dielectric or with resonating structures), artificial magnetic conductors (AMC) or band gap structures (EBG); - Development of effective modeling methods for metamaterials with resonant structures.		
future actions: - Development of methods to control the parameters of metamaterials by means of light or other factors; - Development of terahertz-band metamaterials.		
publications/patents/awards/grants: 1. Hausman S., Jopek L., "Tunable Flat MRI Lens", on International Symposium on Electromagnetic Fields in Mechatronics, Electrical and Electronic Engineering, Nancy, France, 2019. 2. Jopek, L., Hausman, S., Barba, P.D. : "Optimization of an Artificial Magnetic Conductor Geometry Using a Pareto Approach", 13th European Conference on Antennas and Propagation, EuCAP 2019.		
keywords: metamaterials, gradient metamaterials, metasurfaces, artificial magnetic conductor, computational electromagnetics, terahertz gap		
a list of proposals for traineeships in the research group concerned: Development of methods for the: - design and manufacturing of gradient metamaterials; - design of metasurfaces, including metasurfaces with parameters that change under the influence of light or other factors.		