

PhD position in metamaterials

One 3 years PhD position for fabrication, characterization and modelling of negative refractive index materials (NIMs) is available at DTU Fotonik - Department of Communications, Optics & Materials starting in spring 2008.



Metamaterials are new artificial materials that have the properties not yet encountered in nature (e.g. negative refraction, negative phase velocity). Using “classical” materials (metals and dielectrics) one can create a new class of composites whose properties are not simply the ones of the constituent materials, but much more different.

The main purpose of the project is to obtain isotropic metamaterials that exhibit, for IR and/or visible light, negative refraction. Such materials can be used to various applications like creating lens with resolution below diffraction limit, efficient “micro-world” and “nano-world” couplers or even invisibility cloaks.

In order to fabricate these materials, a great deal of the PhD work will take place in DTU’s cleanroom equipped with the state-of-the-art facilities.

The PhD student to be enrolled in this project has to have a good understanding of optical phenomena and photon-matter interaction. Willingness to work in the cleanroom and simulate (using mainly a commercial software but also a home-made one) such structure is also essential for this challenging work.

Further information about the scholarship and requirements for application can be found at: http://www.dtu.dk/English/About_DTU/vacancies.aspx

Application deadline:

15-th February 2008

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