

Notice of dissertation defense

21.03.2018

Optical properties and applications of anisotropic low-dimensional nanomaterials

Title	Optical properties and applications of anisotropic low-dimensional nanomaterials
Content	The optical properties of various low-dimensional nanomaterials (e.g., carbon nanotube, nanowire, black phosphorus) with anisotropic structures are studied in the dissertation. Based on their anisotropic optical responses, they are investigated for various optical and photonic applications. For example, aligned carbon nanotubes are used for the polarization control in broadband fiber laser system; semiconducting nanowires are designed for the construction of all-optical logic gates, which provide a solution for the building of future optical computer; two-dimensional black phosphorus, rhenium diselenide and disulfide are studied for the waveplate applications based on their asymmetrical crystal structure. All of the results show their great potential for manipulation of the light in future integrated photonic devices.
Field of research	Photonics
Doctoral candidate	He Yang, Master
Date and time	06.04.2018 at 12:00
Place	The large seminar hall, Micronova, Tietotie 3, 02150, Espoo
Opponent	Dr. Andres Castellanos-Gomez Institute of Materials Science of Madrid, Spain
Supervisor	Professor Zhipei Sun, Aalto University School of Electrical Engineering, Department of Electronics and Nanoengineering
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