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
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Dissertation website
https://aaltodoc.aalto.fi/handle/123456789/30240

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The dissertation is publicly available on the notice board of the Library of the Aalto University Learning Center at TUAS building (Maarintie 8).