



PhD position on non-linear optics and quantum optics in wide bandgap material photonic crystals

A PhD student position is available at the Photonic crystal group in the Institute of Physics in in the field of planar photonic crystals.

Photonic crystals consist of 100 nanometer sized arrays of holes etched in a planar semiconductor waveguide. Such structures exhibit very peculiar properties for light propagation and confinement that will be exploited in non-linear optics in the visible and near infrared.

The subject of the thesis will focus on the fabrication and characterization of such structures processed in wide bandgap materials such as GaN and AlN to achieve non-linear optical effects such as second harmonic generation or down conversion. These effects will then be exploited to realise non-classical light sources, such as single photon source, correlated or heralded photon.

The thesis is mainly experimental with a special emphasis on the processing and optical measurements. Prior knowledge or a strong interest for at least one of the following topics is a prerequisite: semiconductor processing (clean room), photonic crystal, experimental lab work in optics.

Starting date: April 2021, duration 4 years.

For more information on:

EPFL : www.epfl.ch The doctoral schools at EPFL : phd.epfl.ch

The EPFL doctoral school in physics :

www.epfl.ch/education/phd/programs/edpy-physics

The EPFL doctoral school in photonics :

www.epfl.ch/education/phd/programs/edpo-photonics

The Institute of Physics : iphys.epfl.ch

The Photonic crystal group : sci-sb-rh.epfl.ch

For more information or to send application :

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