|n⟩ About us

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nextnano
Software for semiconductor nanodevices

Development of user-friendly software for the simulation of electronic and optoelectronic semiconductor nanodevices such as quantum cascade lasers, nanotransistors, LEDs, solar cells, resonant tunneling diodes, quantum dots, HEMTs and infrared detectors.

nextnano GmbH is a spin-off from the Walter Schottky Institute of the Technische Universität München.
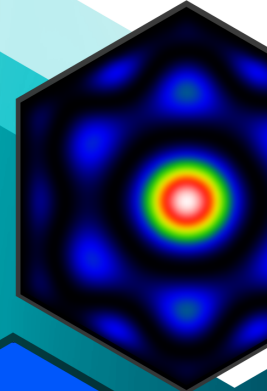
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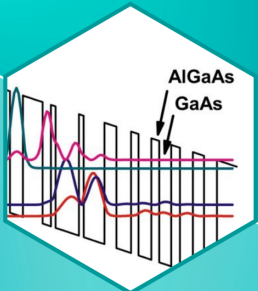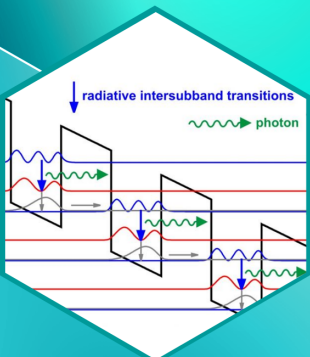Germany

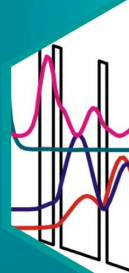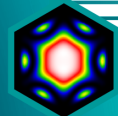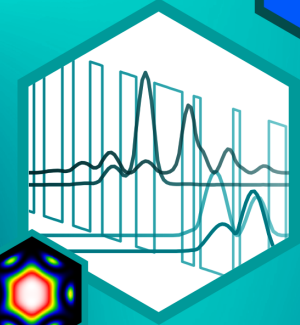## |n⟩ Software for simulation of electronic and optoelectronic semiconductor nanodevices

QCLs

Operating principle
Photons are emitted via intersubband transitions. Electrons tunnel resonantly into the quantum well of the next cascade.

radiative intersubband transitions
photon

AlGaAs
GaAs

Electron wavefunctions
Each semiconductor layer is only a few atomic layers thin. The laser wavelength is designed by "Wavefunction Engineering".

www.nextnano.com/nextnano.QCL

Your digital twin for the simulation of
THz and Mid-IR Quantum Cascade Lasers

Quantum transport calculations using
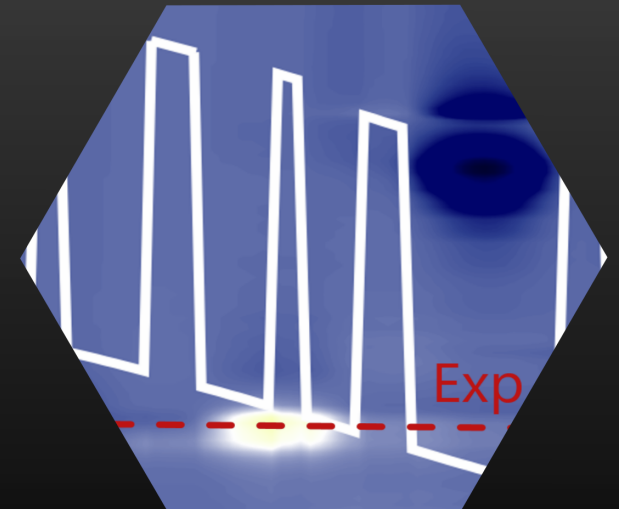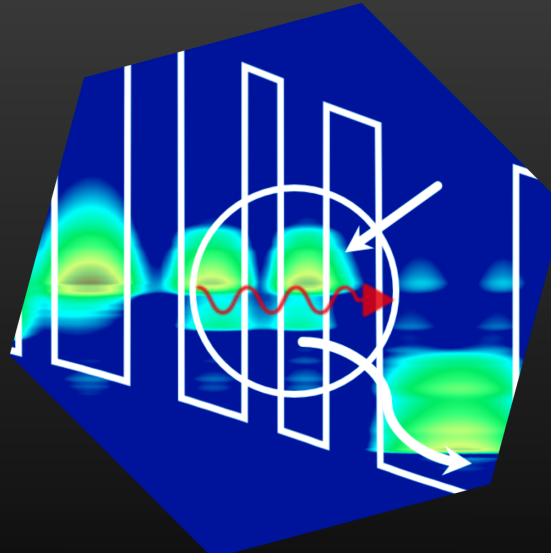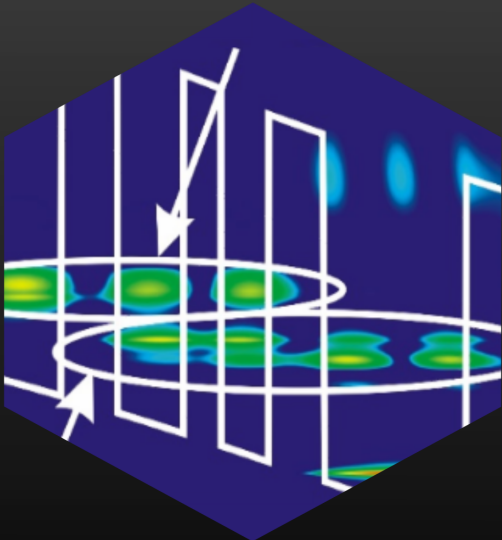nonequilibrium Green's functions (NEGF)

nextnano
Software for semiconductor nanodevices

Local Density of States

Electron Density

Gain

Exp

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