

nextnano
Software for semiconductor nanodevices

About us

Contact

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

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

Due to the scaling of semiconductor electronics, quantum physical effects are gaining importance and are fundamentally challenging the design of new devices.

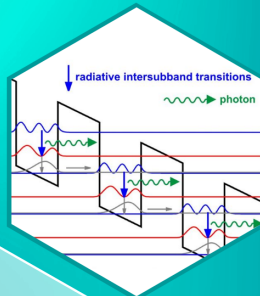
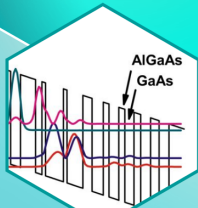
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Software
for simulation
of electronic and
optoelectronic
semiconductor
nanodevices



Advantages

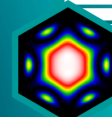
Our customers benefit from

- faster and cheaper development
- better understanding of device physics
- systematically improving & optimizing devices
⇒ less redesign cycles

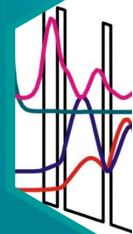
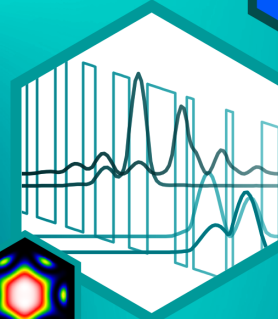
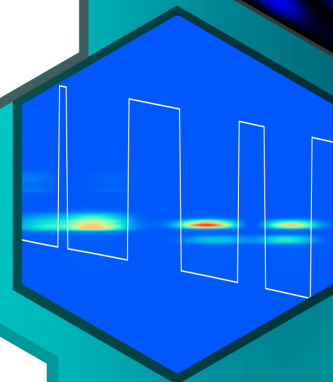
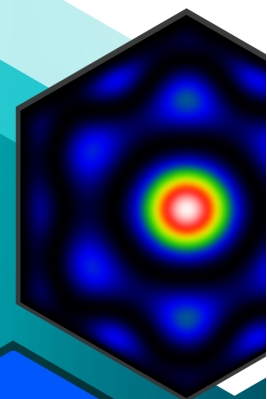
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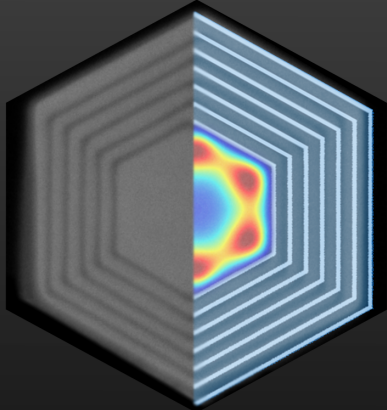
The digital twin for the simulation
of your semiconductor nanodevices

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

nextnano

Software for semiconductor nanodevices

Custom-made Devices



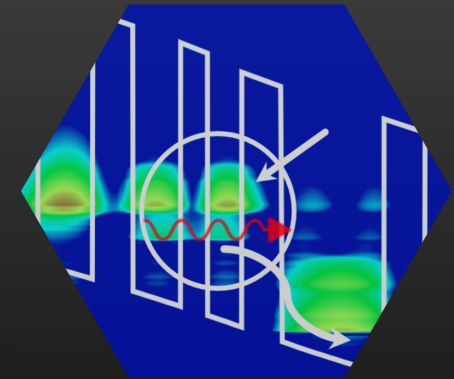
You wish to create something new?
Our software supports any desired structure
and material combination in 1D, 2D & 3D,
including a database for all group IV, III-V and
II-VI semiconductors (zincblende and wurzite).

Calculation

```
# AlGaAs Shell
region{
  hexagon{
    center{ x = 0.0
    corner{ x = $barrier
  }
  ternary_constant{
    name = "Al(x)Ga(
    alloy_x = 0.15
  }
}
```

You decide what you need!
Strain, piezo & pyroelectricity,
Schrödinger-Poisson-Current solver,
multi-band $k \cdot p$, quantum transport (NEGF),
electric and magnetic fields, ...

Visualization



Numerous file formats and export options
enable perfect integration into your
individual postprocessing workflow.
Built-in features to directly visualize
the results enhance fast data analysis.

Give it a go!

Get your free test license at www.nextnano.com!