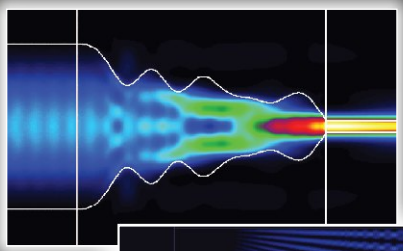
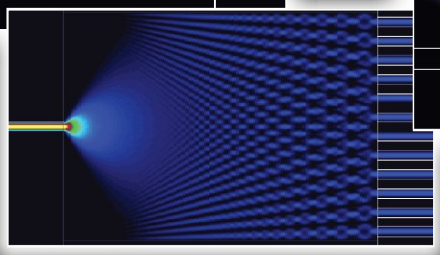
FIMMPROP

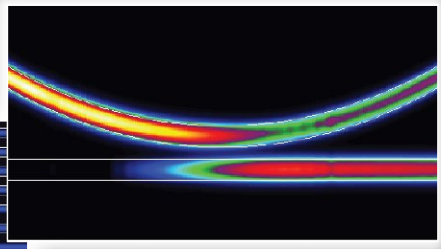
Designing silicon photonics? Get the best simulation tool for the job. Get FIMMPROP



Automatically optimised multi-mode to single-mode waveguide taper



1x12 SOI MMI Coupler



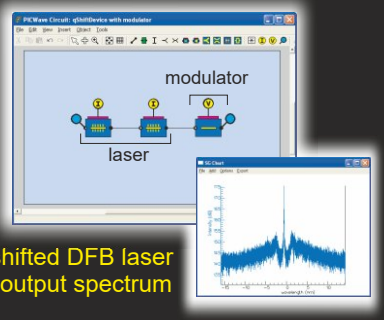
SOI Ring Coupler

Applications:
Optical couplers
Ring couplers
Vertical couplers
Fused fibre couplers
Mode-size converters
Optical gratings
Y-junctions
Slot waveguides
Hollow core waveguides
Surface plasmons waveguides
Micro-bends
Taper optimisation

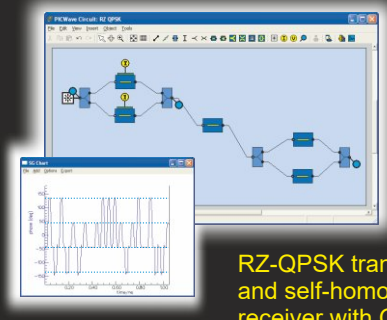
PICWave

Making innovative active PICs? Speed up your development Add PICWave to your simulation toolbox

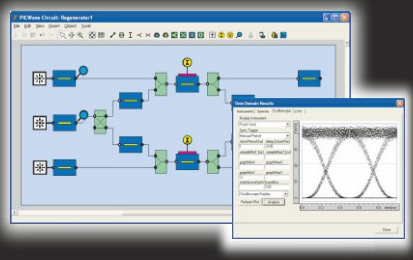
Applications:
SOAs
Q-switched lasers
DFB lasers
SG-DBR tunable lasers
Electro-absorption modulators
AM/FM modulators
Phase-shift keying (PSK)
Active regenerators
Fibre Bragg gratings
Ring resonator circuits
Optical noise modelling
Import of FIMMPROP components



λ/4 shifted DFB laser with output spectrum



RZ-QPSK transmitter and self-homodyne receiver with QPSK signal phase plot in the time-domain



Active regenerator circuit with SOAs showing the eye diagram response including noise

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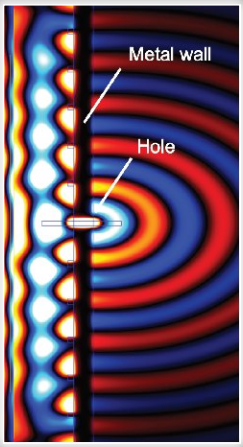
Photon Design – leading the way in innovative photonics simulation tools since 1992, now used in over 30 countries around the world, in industry and academic research.

We can provide you a complete suite of simulation tools from waveguide mode solvers, passive component simulators, laser diode and other quantum well tools, all the way to full photonic circuit simulators.

If your devices are too hard for your existing tools, come visit us and challenge us to do better!

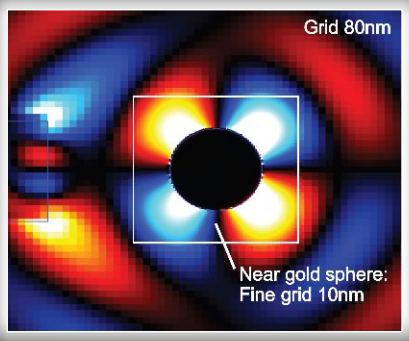
OmniSim

Omni-directional FDTD and FEFD simulations for arbitrary designs



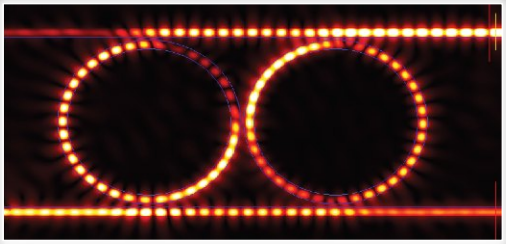
Surface plasmon modelling for the development of light harvesting technology

Unique sub-gridding tool:
- ideal for plasmonics
- now supported by cluster & SMP



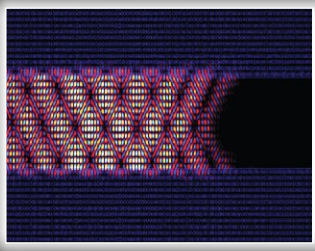
FDTD Engine Features:
- Symmetric Multi-Processing (SMP) for multi-core CPUs
- Subgridding - add extra resolution where you need it, giving x4 to x64 speed improvement
- Cluster version supporting true SMP available for Windows and Linux clusters

Available in native 32-bit and 64-bit versions

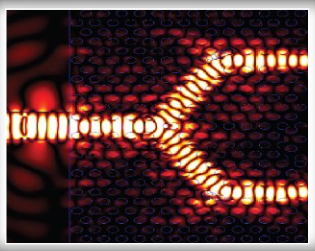


Small ring resonators

LET OUR ADVANCED 64-bit FDTD MAKE THE MOST OF YOUR MULTI-CORE CPUs

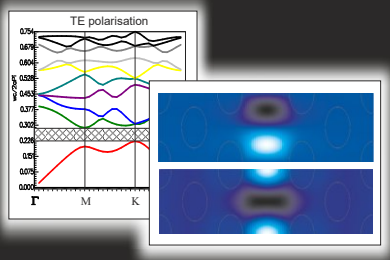


Photonic crystal laser cavity modelled by Active FDTD including carrier rate equation



Automatically optimised Y-junction in a photonic crystal lattice

CrystalWave is the ideal design tool for photonic crystals:
- The World's nicest photonic crystal lattice editor! Create lattices and line defects in just one click!
- Supports OmniSim's 3D FDTD and 2D FEFD Engines
- PWE Band Diagram Calculator
- Automatic lattice optimisation with Kallistos
- Efficient for even millions of holes!



Band structure analysis for 2D and 3D lattices

CrystalWave

The complete design suite for photonic crystal applications

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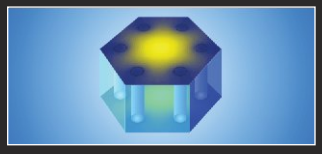
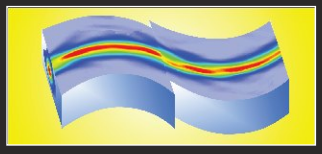
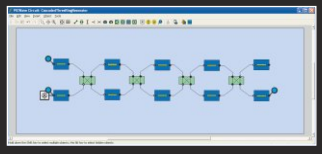
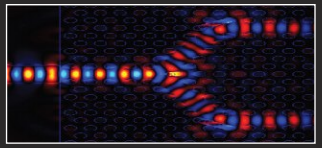


FIMMPROP



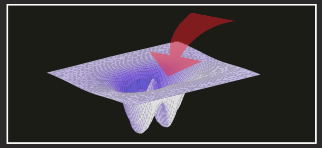
PICWave





CrystalWave

OmniSim



Kallistos