Introduction to Crosslight FDTD

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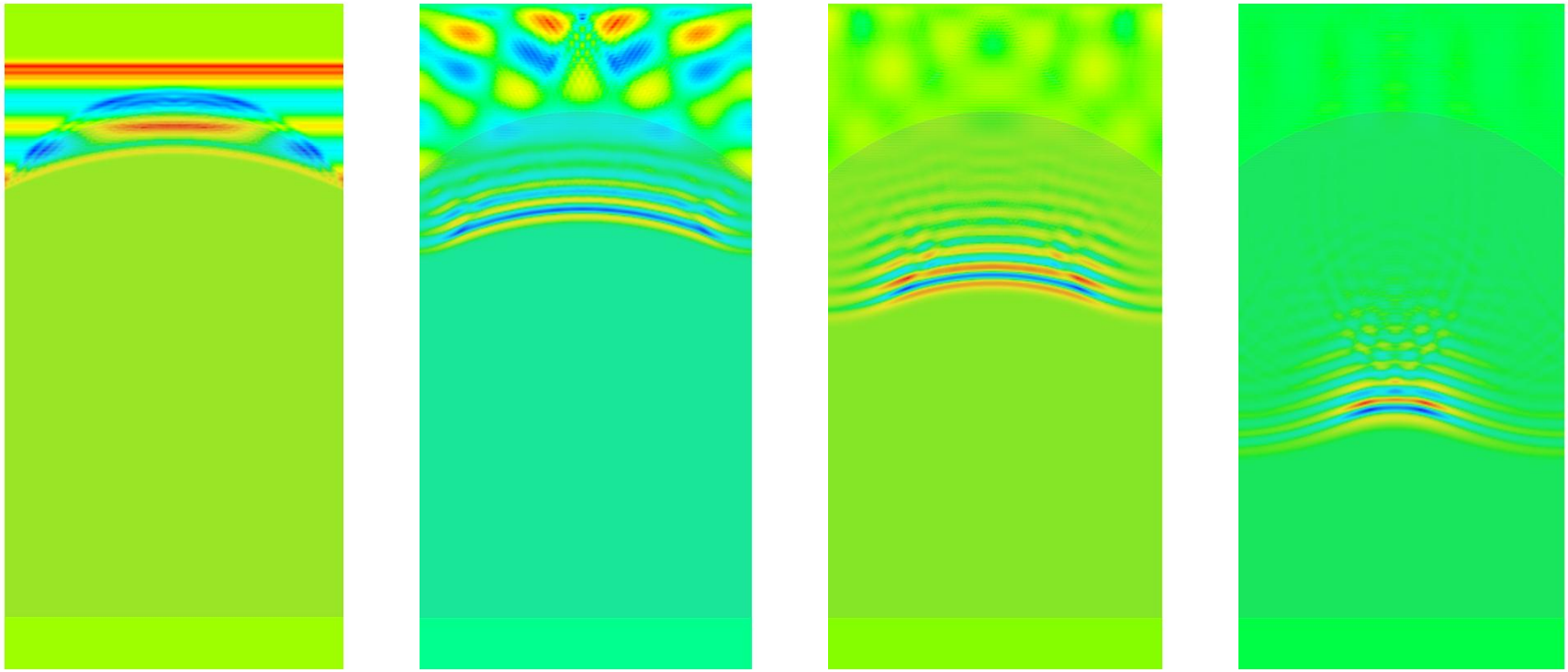
About Crosslight FDTD

- Newly developed 2D/3D FDTD simulator.
- Direct interfacing with Crosslight device simulators. Scripting with Python is also available.
- Full control from GUI operation available.
- Material dispersion is implemented by various dispersion models.
- PBC and UPML/CPML absorbing boundary condition are implemented.
- MPI task-parallelism or GPU data-parallelism can be used for parallel acceleration on multi-core CPU, PC-cluster and GPU card.

Example 1: 2D Lense

Source



Time evolution of electric field

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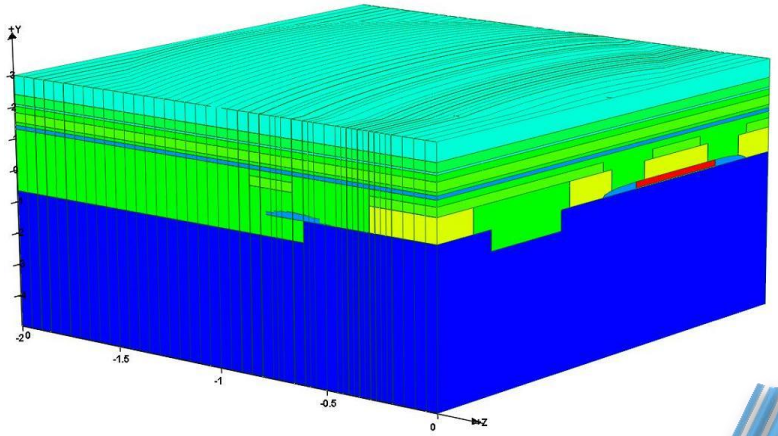
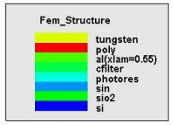
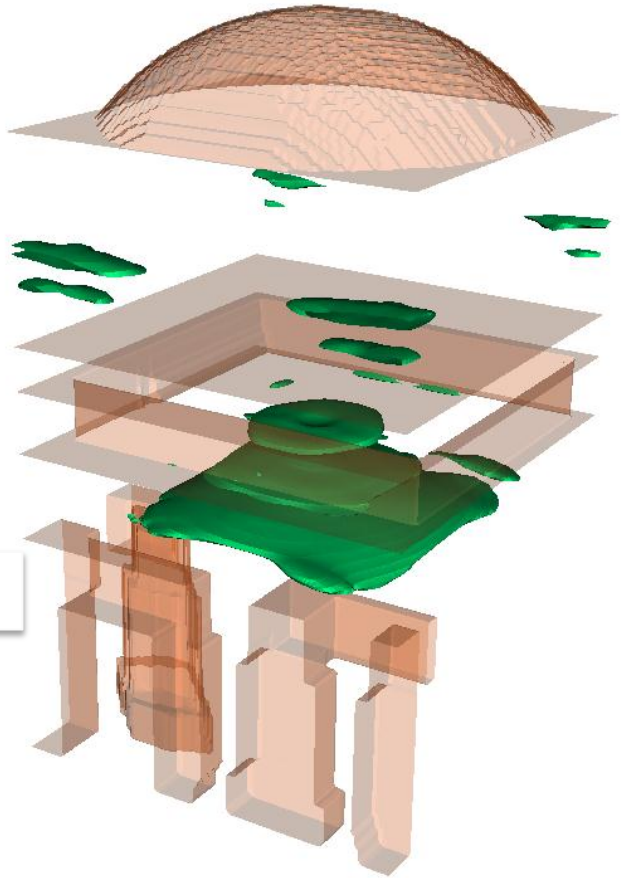
Example2: 3D-APS Sensor with Micro-lens

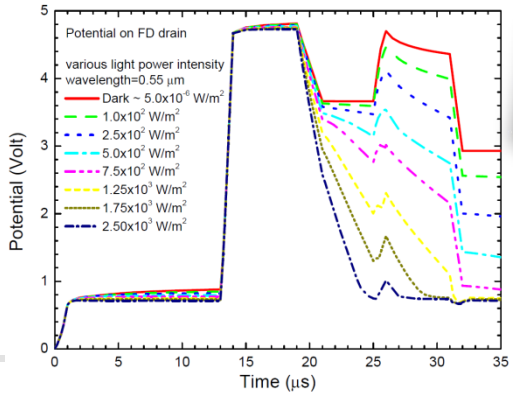




Device structure data generated by CSUPREM process simulator



3D FDTD Simulation



Optical carrier generation profile obtained by 3D-FDTD simulation is used for device simulator.

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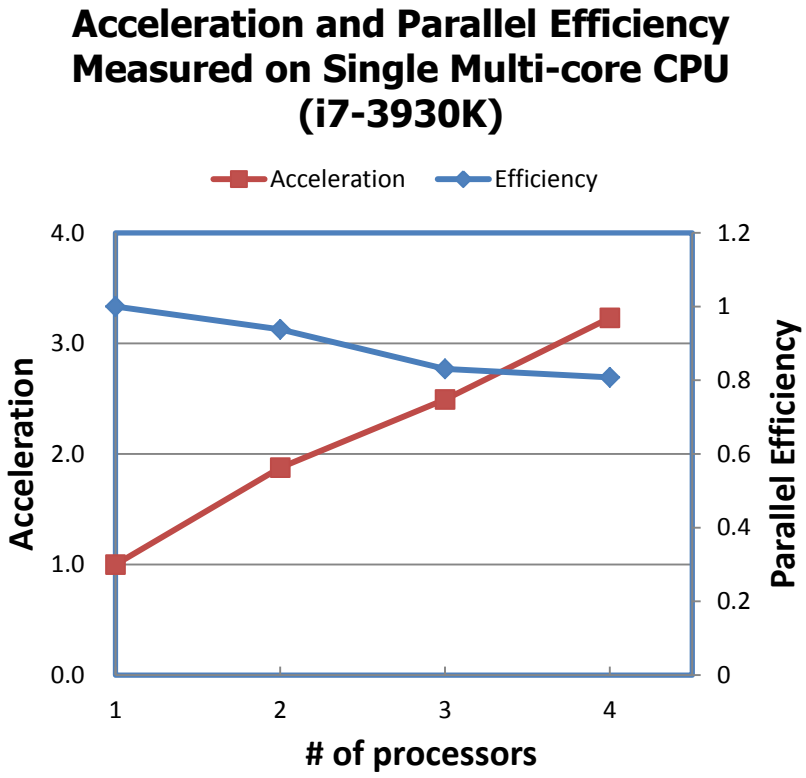
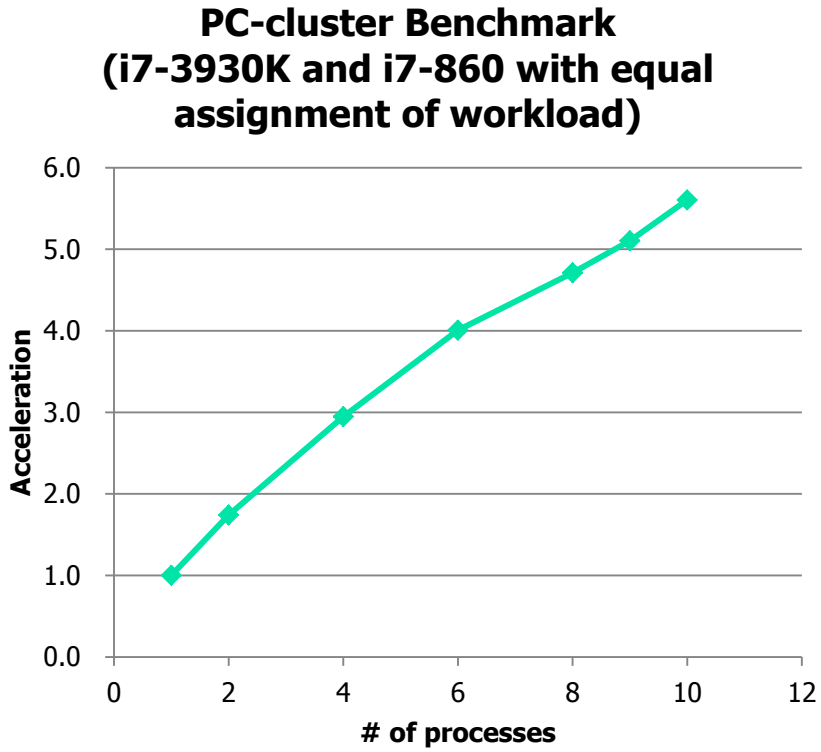
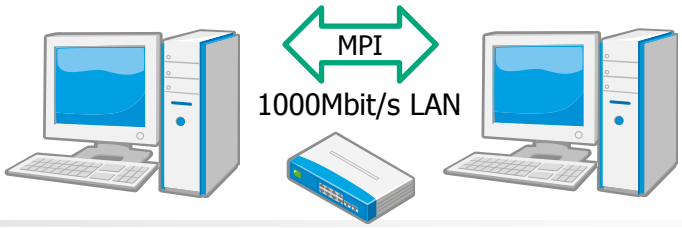
MPI Parallel Benchmark







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