

Laoss

Design & Optimization Software for Up-scaling
of Large-Area LEDs, Solar Cells & Panels

Electrical

Thermal

Optical



www.fluxim.com



 swiss made software

Design & Optimize Large Scale LEDs & Solar Cells

Laoss (Large area organic semiconductor simulator) is a powerful software package for the design, simulation and optimization of large-area organic and perovskite solar cells and LEDs. (displays, lighting panels, photovoltaic arrays).

Electrical Module



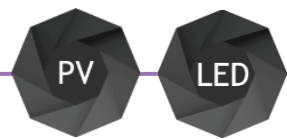
Simulate the characteristics of large-area LEDs & Solar cells

Optimize the electrode design

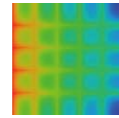
Reduction of the electrical losses

Analysis of non-ideal effects in LEDs & Solar Cells

Understand electrical cross-talk in RGD LED pixel array



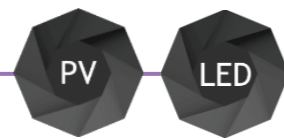
Thermal Module



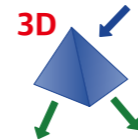
Coupled electro-thermal model to simulate the two-way interaction between heat generation and electrical properties of the semiconductor

Calculate the temperature distribution in OLEDs and solar cells under standard operations

Explain non-ideal IV characteristics of LEDs and solar cells due to electrothermal coupling



Optics Module

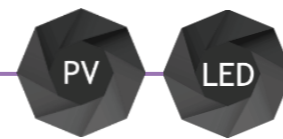


Optical simulation with a powerful 3D ray-tracing algorithm

Model stand-alone 3D optical elements and their contribution to the device

Simulate optical cross-talk in LED displays

Easily coupled to Setfos to analyze LEDs and PVs with complex light-coupling geometries

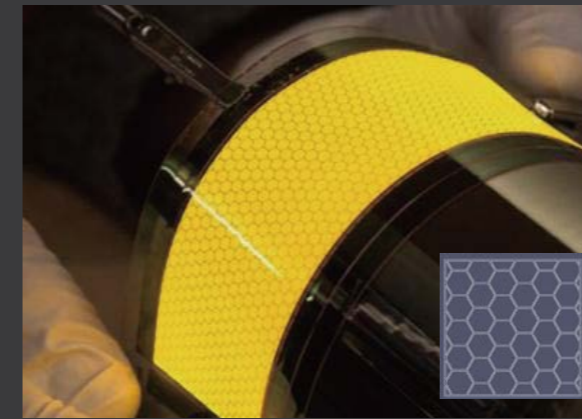


Laoss Module Options

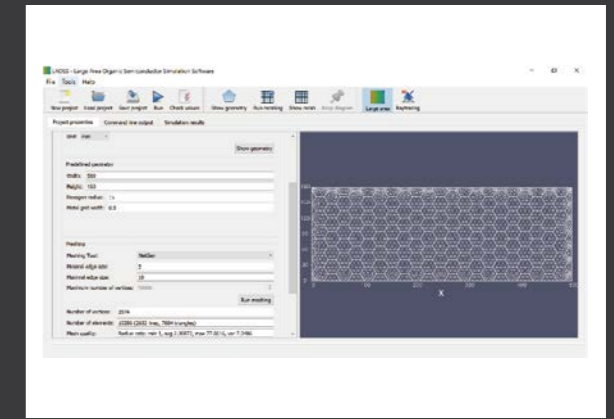
We offer three modules with Laoss: **Optical**, **Electrical** and **Thermal**. The optical and electrical modules can be purchased separately. The thermal module requires a license of the electrical module and considers electro-thermal coupling.

Intuitive Work Flow

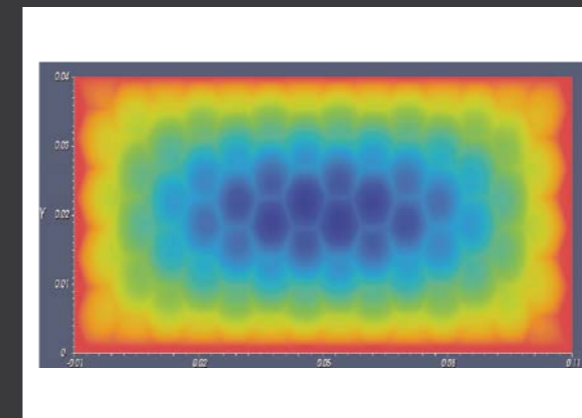
Select the geometry and generate the CAD file.



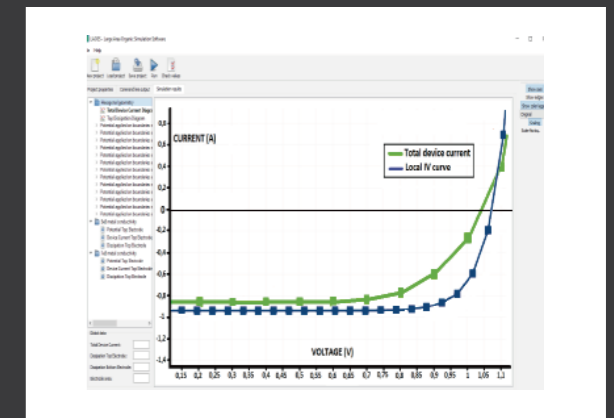
Import a CAD drawing or create a geometry in Laoss. Then generate the mesh.



Run the simulation and visualize the selected output.



Import the I-V characteristics of the reference device. Define the material parameters.



The characteristics of the large-area device can be compared to the local I-V curve.

Calculate, Simulate & Optimize

- Analyze the electrical losses in large area electrodes. (LEDs & PVs)
- Evaluate the current flow in the electrodes. (LEDs & PVs)
- Calculate the I-V curves of large devices. (LEDs & PVs)
- Optimize the power efficiency of full solar-cell modules. (PVs)
- Calculate the temperature distribution on the device. (LEDs & PVs)
- Quantify pixel cross-talk effects. (LEDs)
- Optimize the geometry of the electrodes. (LEDs & PVs)
- Simulate the impacts of defects and shunts on the device operation. (LEDs & PVs)

Laoss Optics Workflow

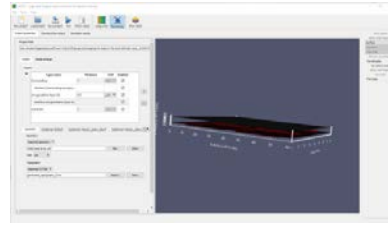
Setup your layer structure including thickness and refractive indices (I)

Load your own XYZ file or use a predefined topography (II)

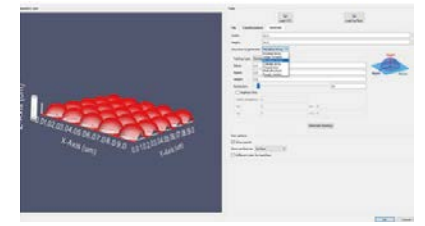
Define emission and passive optical properties per subdomain (III)

Analyze and optimise output (IV)

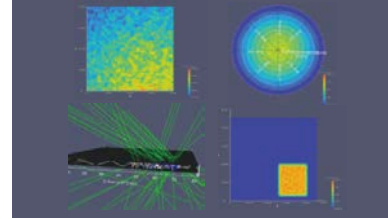
(I)



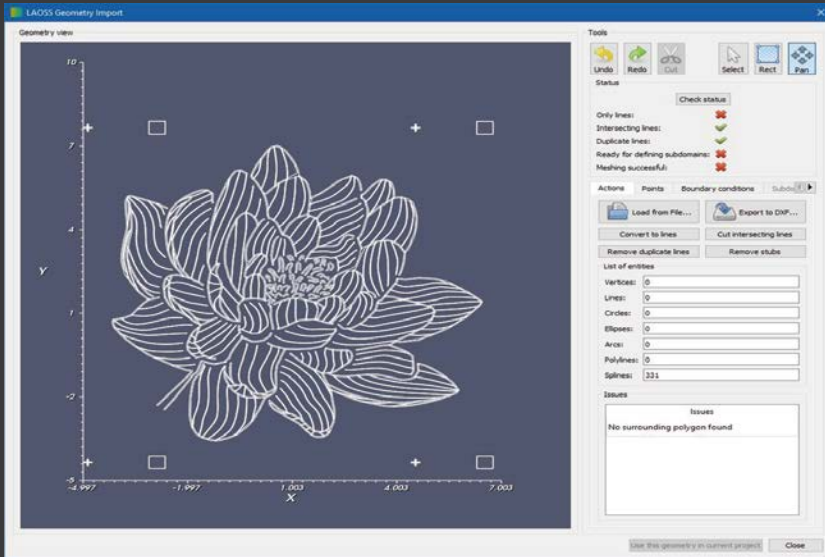
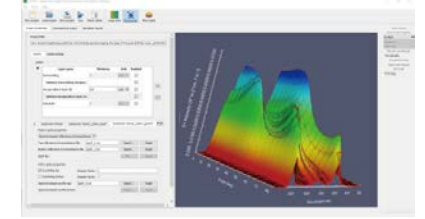
(II)



(IV)



(III)



The Laoss GUI has an intuitive layout and will display your LED or solar cell designs and simulation results in a format that is suitable for detailed analysis and publication. Laoss performs high-speed computations on standard PCs.

Full technical support is included with every Laoss software license. Contact us today to arrange a free 1 month evaluation.



Trusted by Academics & Industry



ISSOFT

(주)이즈소프트 | 플렉심 한국 공식대리점

경기도 군포시 공단로 140번길 46 엠테크노센터 1003~4호

T 031-436-1422 | support@is-soft.co.kr | www.isssoftopticalgroup.co.kr