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OPTIS Introduces New Color LCD Modeler and 3-D Textures Application

OPTIS, a lighting simulation software developer with headquarters in France, has introduced two new products created specifically for the display-design market. SPEOS Color LCD Modeler is a simulation program designed for the prototyping of color LCDs. The 3-D Textures application allows for more accurate simulation of light from LEDs or other sources as it is redirected from a display backplane.

"A challenge for display manufacturers," says OPTIS Sales and Marketing VP Pete Moorhouse, "is to optimize the brightness and legibility of display panels as seen by the human eye, while also reducing the energy required for illumination, and in some cases reducing the number of light sources and therefore the weight of the product." Digital prototyping programs can help display manufacturers optimize designs while also reducing the number of physical prototypes they have to build. Since such prototypes take time to make and can end up costing thousands of dollars each, simulation programs also have the potential to greatly reduce R&D cycles and costs. "Some designers have been able to reduce the number of physical prototypes to one from six or seven," says Moorhouse. In addition, he notes, designers using OPTIS products have been able to reduce the number of LEDs in a product – from six or eight to three in a cell-phone display, for example.

OPTIS works with manufacturers of displays of all sizes, from cell phones to large screens, says Moorhouse, "but especially where optimization of backlighting is critical." The company's core light-simulation program, SPEOS, has been on the market for many years and has been used by manufacturers both in and out of the display business as a standalone or CAD-integrated program. The new product, the SPEOS Color LCD Modeler, is specifically made to model color LCD screens.

The SPEOS Color LCD Modeler can model displays with up to 16 million colors (256) gray levels. It allows for the modeling of nematic and chiral-nematic LC phases, as well as ferro-electric properties and TN and STN effects. It also handles retardation or compensation optical films, such as for touch-screen applications.

The 3-D Textures application is available as part of SPEOS integrated with the SolidWorks CAD programs CATIA and Pro/ENGINEER. 3-D Textures allows designers to create tens of millions of modeled points on optical surfaces, enabling a more accurate simulation of a backlight unit for a display, which is typically textured with up to millions of microscopic polymer "pyramids" that are placed on the backplane to redirect or diffuse light.

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The combination of the new color-LCD-panel modeler and the backlight simulation tool will allow designers to deliver a "100% physically true representation of any LCD display," claims Moorhouse.

Both products were introduced in mid-October. Among the customers already employing OPTIS display simulation software are LG Display, Samsung, and Hyundai.

— Jenny Donelan

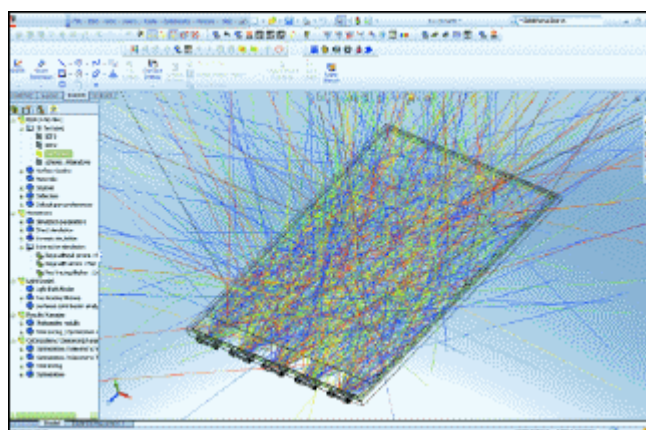
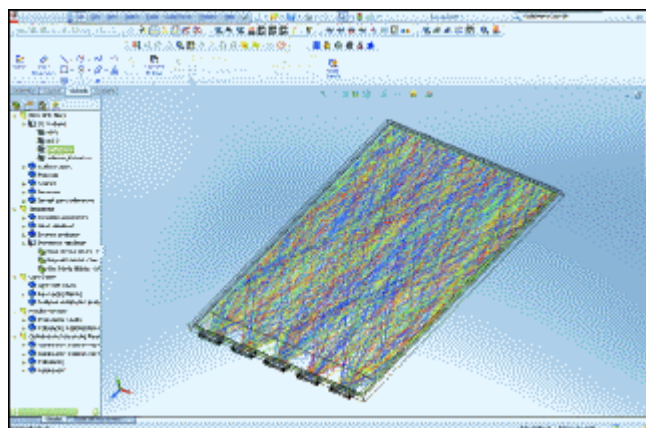


Fig 1: The panel not optimized by 3-D Textures (top) transmits much less light than the optimized version (bottom).

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