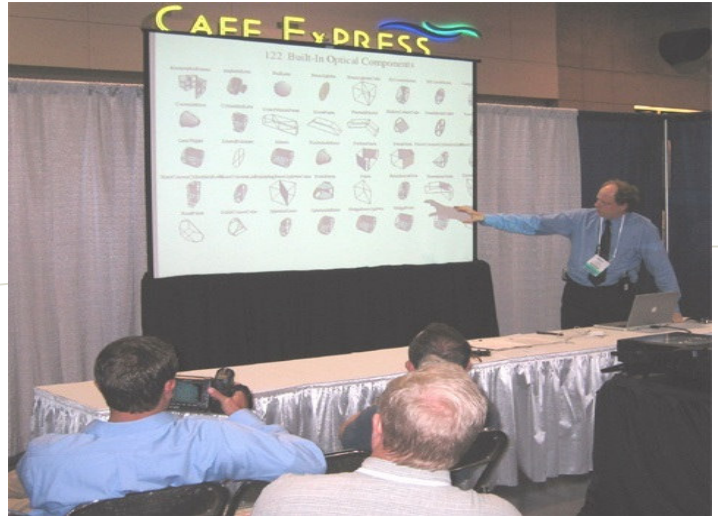


ADDRESSING THE OPTICAL DESIGN AND ANALYSIS NEEDS OF CORPORATE, BUSINESS, EDUCATIONAL, GOVERNMENTAL AND INDIVIDUAL USERS.



Our developer Donald Barnhart giving an overview of *Rayica* and *Wavica* at Optics & Photonics 2005.

Optica Software News

LensLab is now shipping!

We are now offering *LensLab*TM for amateur astronomers, experimental hobbyists, and users on a limited budget. Please note that prices given on the website are intended for corporate customers. Amateur users should contact us directly to receive pricing information for home use.

*LensLab*TM is an entry-level product that offers enhancements to the original *Optica* product, but at a lower cost than *Rayica*TM. Please visit <http://www.opticasoftware.com/store/> to make a purchase or for more information. For a list of the features, view the product comparison matrix <http://www.opticasoftware.com/products/>

We recently asked for your assistance in completing our website survey. As our way of saying thank you, we are randomly selecting one completed survey each month and awarding a copy of our software to the person who completed it. Our recipient for August 2005 is **Yung-Hsun Wu**, of the University of Central Florida CREOL & FPCE. Please continue to fill out the survey for your chance to win.

We are currently seeking resellers in Japan. Contact us at: support@opticasoftware.com to request a copy of our reseller application.

Q: Which computer platforms do you support with your products? **A:** We support all platforms that work with *Mathematica*[®]. These include: Windows, Mac, Linux, and UNIX.

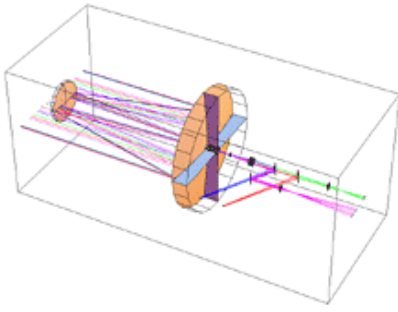
We are offering a **25% discount** on our Annual Support Plans until November 30, 2005. Please notify us before purchasing online at: support@opticasoftware.com with this special promotional code: **ICYTIFAB**

Our Annual Support Plan (ASP) gets you the most up-to-date copy of our software in addition to receiving top-priority technical support. Users with ASP enjoy access to the support and download areas of the www.opticasoftware.com website with **free product upgrades** over a 12-month period. The bottom right section of our home page shows the latest "build date" for our software.

Wolfram Research

Creators of *Mathematica*[®]

Optica Software wishes to express our warmest thanks for your enthusiastic support of our software products over the years. We are very grateful. For various reasons, we decided in 2004 to separate our software business from Wolfram Research. Optica Software has now teamed up with iCyt Mission Technology to continue the ongoing development, distribution, and support of a growing product line: *Rayica*TM, *Wavica*TM, and *LensLab*TM. We are excited about the team and resources that iCyt and Optica Software are putting together in order to better serve you. Optica Software will continue to use *Mathematica*[®] as an integral part of our products and we encourage your support of Wolfram Research and their products.



Notes from the Developer

At Optica Software, we are constantly looking for ways to improve our software and for several months have solicited feedback from our users. As a result of this feedback, we have established a preliminary list of key development areas. These areas include:

- (1) Graphical User Interface for *Rayica* and *Wavica*.
- (2) High-speed ray-tracing via distributed processing as well as dynamic generation of model-specific, stand-alone, native-compiled, ray-trace functions.
- (3) Better import and export from solid modeling packages such as SolidWorks™.
- (4) Better utilization of NURBs to describe arbitrary surface shapes.
- (5) Extended functions for Laser design and analysis.
- (6) Development of a FEM approach to modeling thermal effects in optics.
- (7) Improved grating calculations based on higher-order coupled wave theory.
- (8) Polarization-dependent diffraction and interference calculations.
- (8) Integrated modeling of thin films with optics systems.
- (10) Phase-accurate modeling of bi-refringence.
- (11) Generalized diffraction models of arbitrary optical systems.
- (12) Symbolic Fourier-optics models.
- (13) Coherent speckle and incoherent noise calculations of optical systems.
- (14) Modeling of the eye.
- (15) Non-linear optics.
- (16) Inverse problems.
- (17) Computer-generated holograms.

In addition, it appears that other software packages on the market are lacking many of these features and we believe that we have the best chance to develop such capabilities.

At this time, we are seeking help from our users who share an interest in any of these topics and would be willing to contribute to these areas of development. In addition, we are seeking sources of funding to help cover these development costs. In particular, we will place the highest priority of development to the areas that have the greatest support from our users. Therefore, if you have an application that demands one of these features or have a technical expertise in one of our key development areas, we would love to hear from you! Otherwise, if you require an area of development not mentioned here, please let us know.

Donald Barnhart, Ph.D. – Optica Software Lead Developer

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Request a quote

Let us build your model for you! We can help you regardless of your project size: whether you need a simple model, or a new feature added, or an entire system designed. This can save your company both time and money!

Contact us today for a free assessment of your project.

(217) 328-9847

We will respond with a technical analysis and cost proposal.

Events

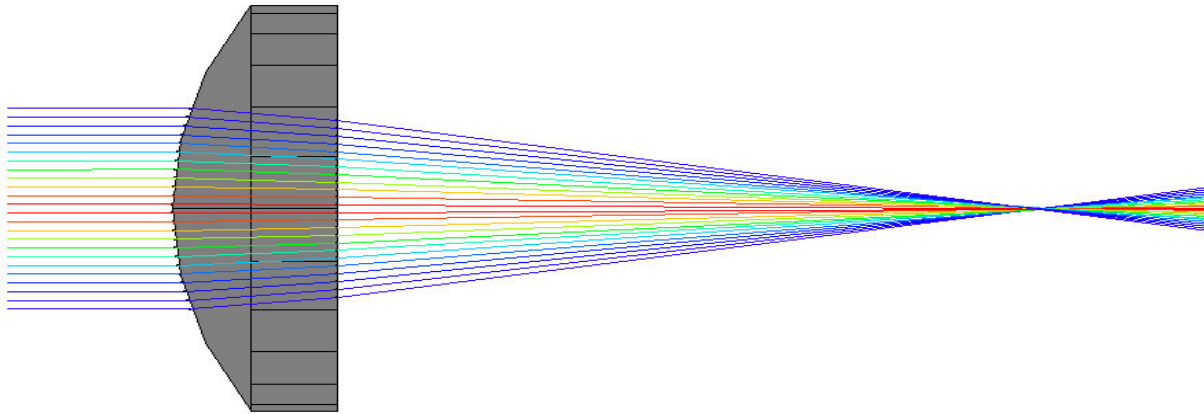
Optica Software will have space at the upcoming **89th Annual OSA Meeting**, October 18-19, 2005. Please visit us at **booth #T25** at the OSA Conference Frontiers in Optics 2005, which is held in Tucson, Arizona. You can register online using the following link: <http://www.osa.org/meetings/annual/>.

We are also scheduled to attend and exhibit at **Photonics West**, January 24-26, 2006 in San Jose, California. The link for the exhibit can be found at: http://spie.org/app/exhibition/index.cfm?fuseaction=welcome&meeting_id=91. Please stay posted for details on a presentation by our developer Donald Barnhart.

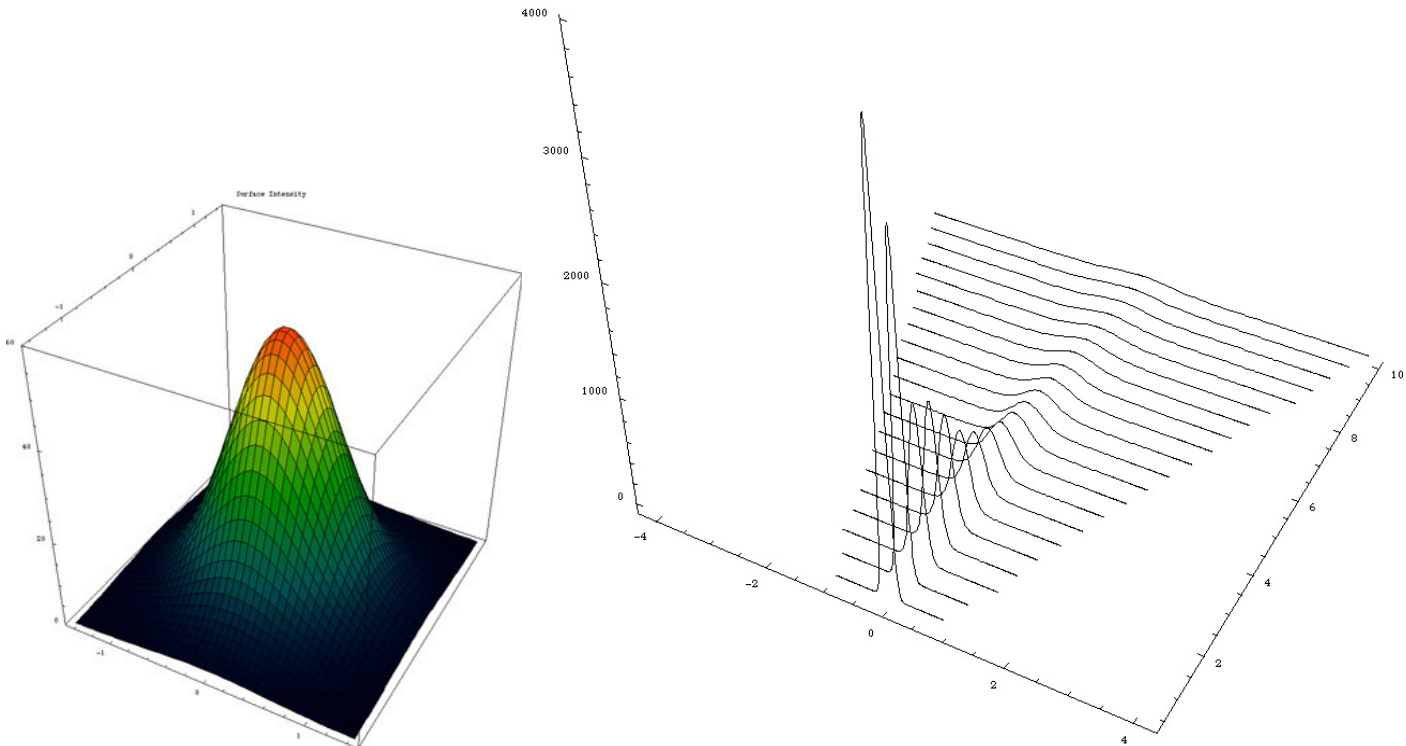
USER TIP

Using FindIntensity for Radiometric Calculations

The FindIntensity function gives you a powerful way to accurately monitor either the energy or power density at any surface in your system. Since you can specify the amount of power or energy emitted by each light source present, you can make calibrated radiometric calculations with FindIntensity. In addition, FindIntensity can be configured to report either irradiance (such as Watt/meter²) or intensity (Watt/steradian). This depends on the coordinate system of the measurement surface: if the coordinate system is given in spatial units (such as meter, cm, or mm) then the measurement will be given as an irradiance. Otherwise, if each surface coordinate is given in angular units (such as radians), then the resulting measurement will be given as an intensity. Since most optical surfaces are defined using spatial coordinates, the resulting measurement from FindIntensity is most often an irradiance measurement. We will now show an example that uses FindIntensity to measure the irradiance of a Gaussian beam projected through a lens, shown below.



Shown below on the left is a plot by FindIntensity of irradiance at the final surface. For this system, we had specified a power level of 100 milliWatts for our Gaussian beam. Since the units of the system coordinates were given in millimeters, the peak irradiance in the left plot is 57 milliWatts per mm² (or equivalently 5.7 Watts per cm²). Finally, shown below on the right is a plot by FindIntensity of irradiance at 21 cuts along the optical axis from the focal plane of the system.



You can learn more about FindIntensity by visiting the support area of our website (www.opticasoftware.com/support).