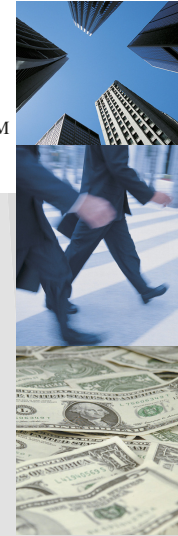
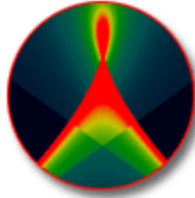


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Optica Software™



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

Optica Software News

NEW EYE MODEL ADDED TO PACKAGE

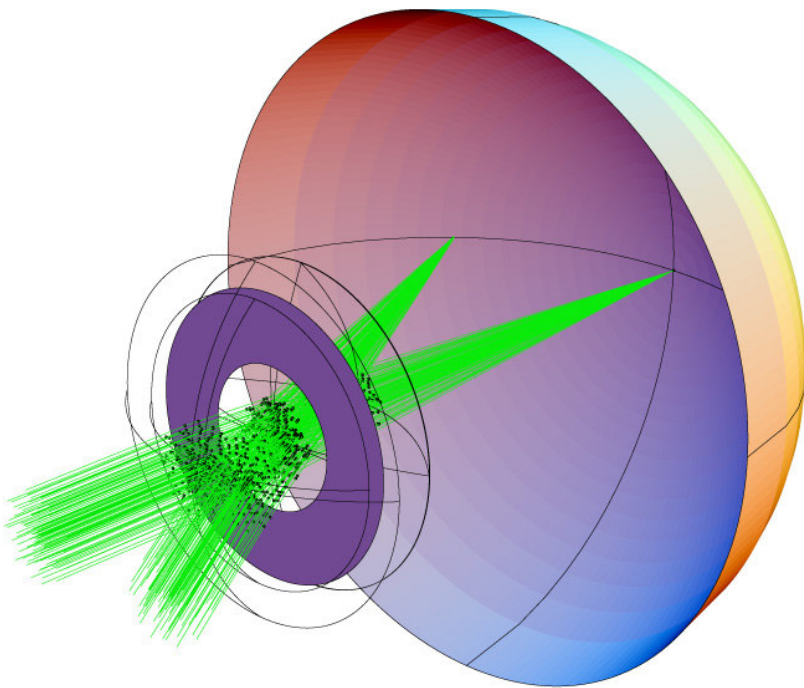


Figure 1. *Rayica* now models eyes. See Notes from the Developer on page 4.

Site Licenses

Optica Software site licenses are attractively priced and eliminate the hassle of complicated site license administration. Whether you are interested in licensing Optica Software products for use within an academic institution, commercial, government, or non-profit organization, we have designed a site license to fit your needs and your budget. Pricing is determined by the number of users you specify. You can always purchase additional user packs as you increase the number of users.

Select your type of organization from the list below to request information on pricing and policies:

[Schools:](#) for a single department within a college or university or for use throughout the entire college or university campus.

[Commercial](#)

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Want new features?

We continually add new features to our software, such as the eye model shown above. If you are an existing user with a current Annual Support Plan (ASP) in place, you may go to our [website](#) and update your software to the most current version. Users with an ASP enjoy access to the support and download areas of our website, which enables them to receive free product upgrades over a 12-month period. Look for Annual Support Plans under the [store tab](#) on our website. Our annual support package also entitles the user to a free home-use license, the most current version of the *Rayica*™ or *Wavica*™ product throughout the 12 month support service, top-priority access to our support team, free computer systems transfers, and one hour of consulting service time. [Update](#) your product copy now if it is older than build-date: **March 25, 2006.**

[CLEO 2006](#)

We are scheduled to attend the upcoming **CLEO/QELS** conference in Long Beach, California where you can visit us in **booth T41**. The event draws over 5,000 attendees annually and the exhibit will be held from May 22-24, 2006. Our lead developer Donald Barnhart will be on-site for questions and short demonstrations. Be sure to stop by and pick up an Optica Software mini Frisbee while during your visit.

Our online survey recipient for **March 2006** is **William Qian**, from **Omnivision**, who won the **Rayica-Wavica Bundle** with it's newest features. Please continue to fill out the survey for your chance to win. For more details on how to participate please visit our [homepage](#).

We are offering **20% off Rayica™ and LensLab™** now through May 28, 2006. You may order with ease through our [website store](#) to receive your software today. **Online Special:** Each order placed **ONLINE** through **April 30, 2006**, will qualify to receive a \$25 gift card from Amazon.com (two orders = two gift cards).

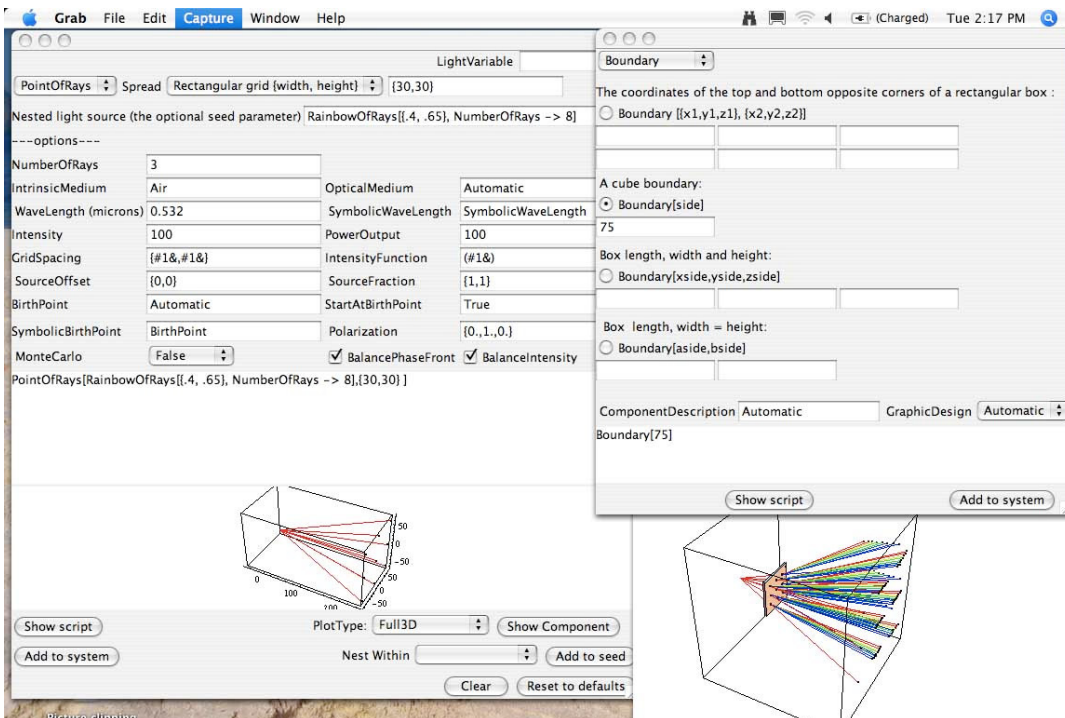
Rayica™ contains all of the original functionality of *Optica™* (version 1) as well as many additional [features](#). In fact, the beta version of *Rayica* was called *Optica 2* (before the separation of our business from Wolfram Research). However, the performance of *Rayica* has been dramatically improved since *Optica 1* such that, for many applications, *Rayica* now traces rays between 15 and 100 times faster yet consumes only a fraction of the memory for the same calculation.

USER TESTIMONIAL: “It is really useful for our optics calculations, especially the ray tracing function. I also like the feature that can combine with the *Mathematica*® calculation. This is a unique function that other software can not support. Thank you very much!”

Yung-hsun Wu
College of Optics & Photonics/CREOL
University of Central Florida

Consultants Wanted:

We are seeking users of *Rayica* and *Wavica* who may be interested in helping support Optica Software with special projects on a consulting basis. If you are interested, please send a brief description of your experience and expertise to [software development](#).



Development of the **Graphical User Interface (GUI)** is continuing. The figure above shows an example of a nested light source passing through a grating. Two of the component menus are also shown above.



Q&A Mailbox

Q: Does Rayica™ use Mathematica® and is Rayica backward-compatible with the Wolfram version of Optica™?

A: Rayica™ is a direct descendent of Optica™ and uses Mathematica® in the same way. As such, Rayica contains all of Optica's functions and can run all Optica notebooks but Optica cannot run all Rayica's notebooks since many Rayica functions do not exist in Optica. However, there have been some minor syntax changes between the default behavior of some functions in Rayica and Optica, but you can easily switch Rayica's syntax back to the original Optica format if you wish. These changes are well documented at the end of the new Rayica User Guide which you can [view](#) on our website.

Submit your questions to our [Optica Software Development Team](#)

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Our lead developer Donald Barnhart with his former teacher Dr. Tung H. Jeong, master instructor of holography. Dr. Jeong recently retired after over three decades of teaching from Lake Forest College in Illinois.

Exhibit Event Schedule

CLEO/QELS Conference

Long Beach, CA
May 21-26, 2006

[CLEO/QELS Exhibit](#)

Booth #T41

International Optical Design Conference

Vancouver, BC Canada
June 4-8, 2006-01-18

[International Optical Design Conference Exhibit](#)

Optics & Photonics

San Diego, CA
August 13-17, 2006

[Optics & Photonics Exhibit](#)

Frontiers in Optics

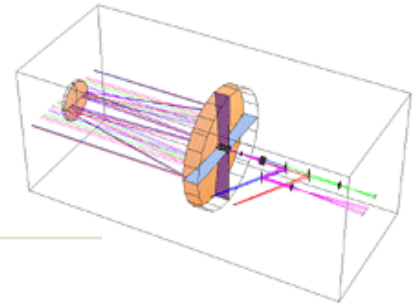
Rochester, NY
October 10-11, 2006

[Frontiers in Optics Exhibit](#)



Notes from the Developer

Donald Barnhart, Ph.D. – Optica Software Lead Developer
donald@opticasoftware.com



Seeing the Light:

You can now model the human eye in *Rayica*[™] and *Wavica*[™] using our newly added EyeModel function (see figure 2). This function includes wavelength-dependent refraction and a spherical retinal surface as well as diffusely scattered retinal reflections and aspheric shapes for the cornea and lens elements. By default, the EyeModel uses settings given by Navarro (See the OSA paper: "Off-axis aberrations of a wide-angle schematic eye model by Isabel Escudero-Sanz and Rafael Navarro"). However, you can also alter any of the default settings through the options of EyeModel. As inputs, the EyeModel takes the following parameters:

EyeModel[dx, dy, defocusangle, scatter, pupilsize]

In particular, a thin-lens defocusing element is located at the pupil position that is governed by the input defocus parameters: dx and dy (given in units of diopters). The defocusangle determines the angle of rotation (degrees) about the pupil center for the defocus effects. The scatter parameter is used to specify the amount of diffuseness of the retina. The pupilsize parameter determines the diameter of the pupil opening. In general, EyeModel is created with spatial units of millimeters. In addition to *Rayica*, the EyeModel function also works with all of *Wavica*'s functions. In particular, in *Wavica* you can compute the diffractive point spread function of the eye, propagate Gaussian beams through the eye (as shown in Figure 3), and calculate symbolic solutions to the eye.

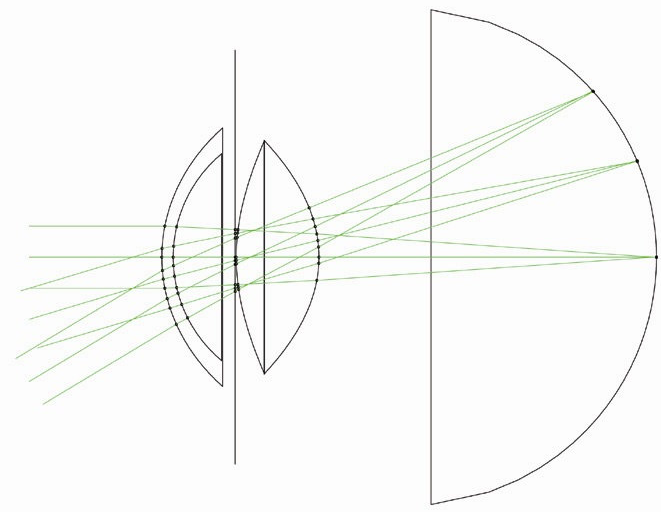


Figure 2. *Rayica* traces rays through the eye model.

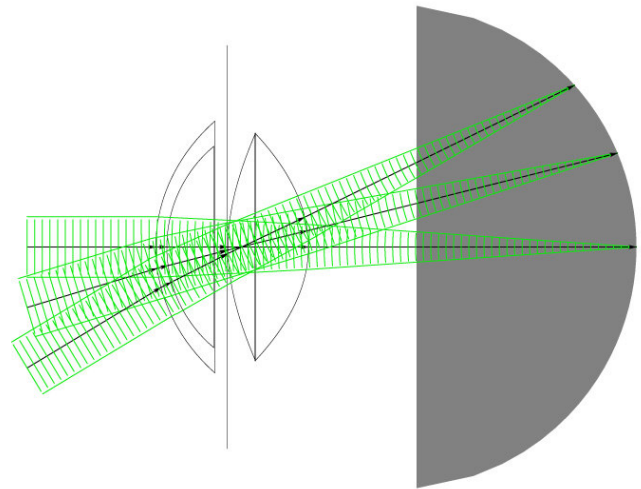


Figure 3. *Wavica* propagates Gaussian beams through the eye model.