

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



Sales Executive Lorenzo Kindle with fiancée Spring in our sales & development office.

Optica Software News

Wolfram Research

We are pleased to announce a reseller agreement with Wolfram Research. Wolfram will now be co-distributing our software and we will be working with them on some future projects.

Coming Soon: Optica Software design courses. Sit down with our developer in a small group setting and learn from hands-on experience how to use *Rayica*TM, and *Wavica*TM. Please contact us for more information at: support@opticasoftware.com to be placed on the waiting list.

HAPPY HOLIDAYS!

As our way of giving back to you, each order placed on our website through **December 31, 2005**, will qualify to receive a \$25 gift card for Amazon.com (two orders = two gift cards).

We are offering a **10% discount** on **ORDERS PLACED ONLINE** until December 31, 2005.

Our online survey recipient for December 2005 is **Roland Ryf, of Bell Labs**. Please continue to fill out the survey for your chance to win. For more details visit our homepage at: www.opticasoftware.com.

USER TESTIMONIAL

“The Rayica and Wavica bundle in addition to being one of the best graphically defined applications available is relatively simple to learn. Some of the salient aspects are the 3D Plot option which allows you to view the system from any angle and obtain a better understanding of the system involved. The OptimizeSystem function calculates the optimal configuration of optical components to obtain a desired result. This result could be a collimated beam or a focused beam for example. It also saves time and makes sense to design and simulate a system before assembling it.

I personally have used the Rayica and Wavica bundle to simulate complex optical systems such as telescopes and interferometers and I found them an indispensable lab tool and a great way to better understand the physics involved in such systems”.

Satya Radhakrishna
University of Nevada, Las Vegas

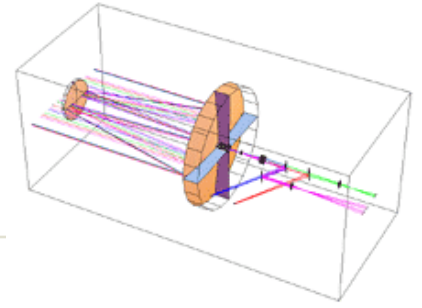
Events

Look for Optica Software at **booth #3034** 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 sign up now to have our lead developer come to your facility for a corporate visit while we are in California. For more information contact us at: support@opticasoftware.com.



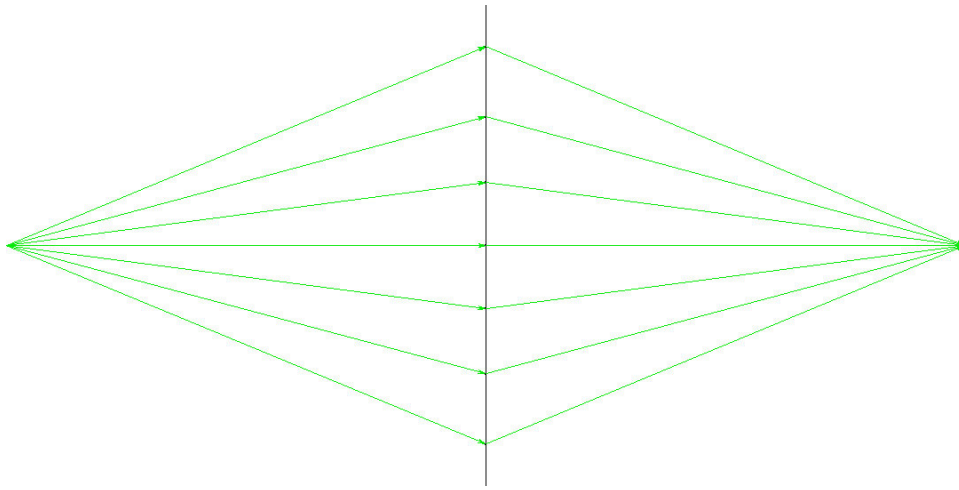
Notes from the Developer

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



Lately, the concept of a negative refractive index has become a very hot research topic.

In *Rayica*[™], you can use ComponentMedium -> -1 to model the effects of a negative refractive index material.



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, 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.

Website Survey

Thank you for your enthusiastic support of our optical simulation software for *Mathematica*[®]. We are working on making improvements to our software and our service, and we're doing this by speaking with past customers and people working with optical modeling software. We would like to take this time to ask for your response to the following questions about our website and any information you can give us concerning our products.

We would like to receive feedback from those who have visited our website and did not make a buying decision. Below are selected responses that you may choose from:

- 1) Outside your price range
- 2) Does not include the features you want (please specify)
- 3) Bought a competitors product
- 4) No money in the budget
- 5) Some other reason (please explain)

We would appreciate responses being directed to: support@opticasoftware.com. To say thank you we are offering a 10% discount on your next order for those who respond to this survey.

CONTACT US:

Donald Barnhart, Lead Developer
donald@opticasoftware.com

Lorenzo Kindle, Sales Executive
lorenzo@opticasoftware.com

Ann Williamson, Software Developer
annw@opticasoftware.com

Support
support@opticasoftware.com

Website
www.opticasoftware.com

Phone
217.328.9847
866.328.4298

Fax
217.328.9692

USER TIPS

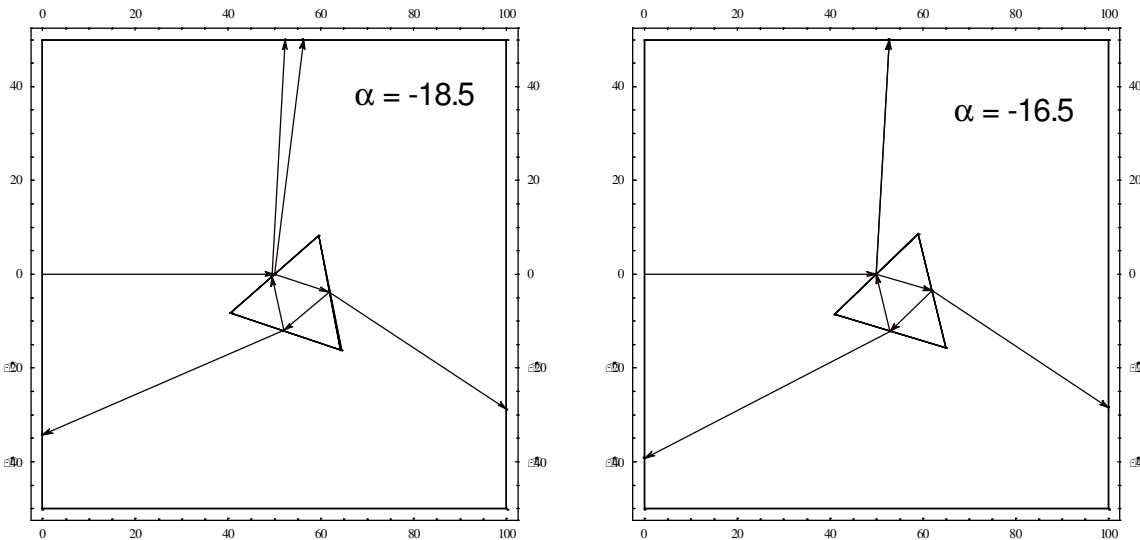
You can learn more about these tips by visiting the support area of our website at: www.opticasoftware.com/support/

Rayica Verifies Alignment of Equilateral Prism

(Submitted by user Bryan Gundrum, Graduate Student at the University of Illinois, Urbana-Champaign)

An experimental technique was recently developed for aligning an equilateral prism included in an imaging system. Angular alignment is critical due to magnification in the dispersion axis. There is a single angle where the magnification is one; this minimizes image distortion. During some initial experiments using a prism in the imaging path, a good image was obtained when the two Fresnel reflections originating at the first surface were overlapped in space. This experimental observation was verified using Rayica's ability to track the Fresnel reflections through the prism.

In the figures below, when the prism is aligned to an angle of 17.5 degrees, the light travels parallel to the base of the prism and the light from internal reflections exits the prism parallel to the first surface reflection. When the prism is off of this angle, the two light beams diverge from one another. This angle, where the light travels parallel to the prism base, is called the angle of minimum deviation and provides a magnification of one.



This experimental technique will be used to align a prism which is part of a larger imaging system. The objective of this system is to visualize the solidification dynamics of thin metal films at extreme undercoolings using third harmonic generation. An ultrafast laser system with 2.25 mJ pulses, and a full width half maximum of 120 fs, provides the high intensity fields needed to generate a significant third harmonic signal. Implementing the alignment technique, verified with Rayica, will greatly reduce the setup time for the full imaging system designed for this experiment.

If you have examples that you would like to submit to the [User Tips](#) section please forward them to: support@opticasoftware.com.

Thank you for your enthusiastic support of Optica Software in 2005 and best wishes for 2006!

Optica Software Sales & Development Team