Activa Netcom & Energy Systems

Zemax Simulation of Polarization Maintaining Fiber

Overview

The Jones Matrix surface in Zemax provides a convenient, idealized model for simulating polarization-dependent optical components when detailed physical or coating data are not available. If the setting "Ignore Polarization" on the Fiber Data Tab in the Physical Optics Propagation settings is checked, then the fiber mode is unpolarized, and the X-direction E field is used to compute the coupling for both the X- and Y-direction fields in the polarized beam. Based on the maximum NA of the guided rays, this typically corresponds to a fiber length in the range of a few meters. This fiber is in direct contact with a glass slide which has a complex thin-film coating on its surface. I am specifically trying to measure the spectrally modified signal that is re-coupled into the. The Zemax we have can do polarization calculations. Any use of anti-reflection (or other) coatings or analysis of energy loss due to reflections or absorption requires polarization analysis.

Article Content

Beam-shaping technique for fiber-coupled diode laser system by ...

An experimental prototype is constructed by using two 12-bar laser diode stacks and an 800 μm/0.22 fiber. Both the Zemax simulation and the experimental data verify that this technique is

Matrix Analysis Model for Evaluation of the Polarization-Maintaining Fiber

Theoretical derivation and simulation show that through the propagation of the PMF affected by temperature and curve, the polarization state of the light undergoes periodic variations;

Polarization in Fiber Optics

A specialty fiber called the Polarization Maintaining (PM) Fiber intentionally creates consistent birefringence pattern along its length, prohibiting coupling between the

Accurate alignment

Polarization-maintaining connectors feature a positioning key aligned to the slow axis of the fiber. The key permits the connector to be mated only with another connector or component at a single angular

Computing Fiber Coupling

When propagating a polarized beam, the fiber coupling receiver efficiency is calculated individually for both the x- and y-polarized portions of the beam, using only the y- or x- components of the complex

Defining the Fiber Mode

The fiber mode may be a Gaussian or Top Hat function, or may be defined by a DLL or a data file. This allows very general and arbitrary fiber modes to be described, including multi-mode, aberrated, or

Optical Design Program User''s Manual July 8, 2011

Radiant ZEMAX LLC (RZ) provides this publication "as is" without warranty of any kind, either express or implied, including but not limited to the implied warranties or conditions of merchantability or fitness

How to model the PMF (polarization-maintaining fiber) in Zemax?

I am affraid this is not possible with Zemax since it is a ray tracing tool while for this model you will need to solve for the Electromagnet fields. I would suggest you to use our Lumerical

Read Chapter 20 in the Zemax Manual: Polarization Analysis

Any boundary between two media can polarize a beam. However, ZEMAX supports an idealized model for a general polarizing device. The model is implemented as a special "Jones Matrix" surface type

Simulation and Characterization of Micro

This thesis studies the impact of alignment errors on the coupling efficiency of laser-to-lens- to-fiber systems. Furthermore, the point spread function (PSF) and the modulation transfer function (MTF) is

Polarization-Maintaining Fiber

Polarization maintaining fiber is defined as a type of single-mode fiber that preserves the polarization state of light during propagation by introducing anisotropic stress in its core, minimizing cross

Microsoft Word

1 About This Guide Congratulations on your purchase of ZEMAX! ZEMAX is the industry standard optical system design software, combining sequential lens design, analysis, optimization, tolerancing,

Computing Fiber Coupling

Computing Fiber Coupling The physical optics propagation algorithm may be used to compute fiber coupling efficiency. A ray based method is also supported, for details search the help files for "Fiber

Ansys Zemax

Zemax Polarization features and Jones Vectors. A basic review of Jones Calculus format and how Zemax employs this in the software as inputs and outputs. Use and understanding of Jones Calculus is ...

Can I model a fiber optic system in OpticStudio?

I want to be able to build a system& nbsp;that allows me to model the coupling of a laser to my fiber optic, as well as the subsequent ray propagation through the fiber. Can this be done in OpticStudio?

Simulation of propagation fiber modes through lens in FDTD and Zemax

Hello everyone, I have a question related to simulations In FDTD and Zemax. Firstly, I did simulations of propagation fiber mode through 1 mm length and 200 um thickness lens. And

How to model a Faraday rotator/ isolator | Zemax

Faraday rotators are polarization rotators. The state of polarization (such as the axis of linear polarization or the orientation of elliptical polarization) is

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://www.activa.net.pl
Email: sales@activa.net.pl
Phone: +48 662 748 193
Address: ul. Cybernetyki 7B, 02-677 Warsaw, Poland

This document is for informational purposes only. Specifications subject to change without notice.