

ZEMAX Non-Sequential Analog Laser Diode



Overview

Nonsequential modeling of laser diode stacks using Zemax: simulation, optimization, and experimental validation. However, I'm still struggling with parameters like X and Y super Gauss, W_x , S_x , H_x , W_y , S_y . On Zemax: I set as Object type → Source Diode After having set the wavelength, the Layout Rays, and the power I am getting stuck on this information: Can someone help me having a look to the file attached (datasheet diode laser) to fill the abovementioned parameters?

Many thanks in advance Gianluca. Modeling a real laser diode stack based on Zemax ray tracing software that operates in a nonsequential mode is reported. The implementation of the model is presented together with the geometric and optical parameters to be adjusted to calibrate the model and to match the simulated intensity. Sources include points, ellipses, rectangles, volumes, data files, and user defined types. Any source may be placed inside of any object, or not in any object, but not both (a source may not straddle an object boundary). Next: Contains proprietary and confidential information of ANSYS, Inc.

Article Content

Mar 18, 2026

Laser Diode Simulation

I would like to simulate a laser diode in Non-sequential mode. I am attaching here the datasheet of the laser diode I would like to simulate. On Zemax: I set as Object type → Source

Aug 17, 2025

Exploring Non-Sequential Mode in OpticStudio - Ansys

Multiple non-sequential groups may be defined in the same sequential system, and any number of objects may be placed in each non-sequential group. This allows

Feb 17, 2026

Non-Sequential Mode Laser Source | Zemax Community

Hello, How can I create the attached sample laser in non-sequential mode considering we are working outside the Rayleigh range? Should I choose Source Gaussian, Source Point or Source

Aug 13, 2025

Simulation for fiber-coupled diode lasers by ...

In this paper, we simulate the beam shaping and fiber coupling of DLSs based on the actual data by measuring the propagation angle of each emitter of DLS in the fast axis using the non

Aug 04, 2025

How to use non-sequential mode simulation to shape

I want to use the non-sequential mode simulation to shape the circular spot output from a single-mode fiber laser into a linear spot. I import the following

Oct 14, 2025

API (Matlab and Python Standalone): Non-Sequential Pulsed Laser ...

API (Python Standalone): Non-Sequential Pulsed Laser analysis This Python code is translated from Matlab Code shows the possibility of simulating a pulsed laser by using ZOS-API. In

Dec 26, 2025

Laser diode Astigmatism | Zemax Community

Dear all, I want to simulate the Laser diode source in the sequential mode, the source has astigmatism from the beginning on itself, Is there a way to

Aug 12, 2025

Screenshot of the Zemax nonsequential component editor showing ...

Screenshot of the Zemax nonsequential component editor showing implementation of the diode stack and far-field experimental setup.

Oct 26, 2025

Illumination using a multi-mode fiber | Zemax Community

I got inspired by the article of @Jeff.Wilde (Modeling speckle | Zemax Community) where he explains how speckles can be modelled (e.g., multiple modes emanating from a multi-mode fiber).

May 01, 2026

Method For Laser Source Definition in ZEMAX™ | IL Photonics

Unfortunately, Zemax™, one of the most common modelling software tools, does not offer a standard method for modelling multi-mode lasers in its sequential mode, thus compelling most

Apr 26, 2026

Nonsequential modeling of laser diode stacks using Zemax: simulation ...

Article on Nonsequential modeling of laser diode stacks using Zemax: simulation, optimization, and experimental validation, published in Applied Optics 49 on 2010-07-26 by Nicola

Jul 11, 2025

Laser Diode Astigmatism | Zemax Community

For modelling laser diodes via "source diode" the value of astigmatism matters. Data sheet of laser diodes typically don't show this value. I tried to derive this

Aug 07, 2025

Ansys Zemax Introduction to Non-Sequential

22.1* This course is an introduction to non-sequential mode and ray-tracing in that mode. It will cover how sources and detectors are defined along with some

Oct 28, 2025

Nonsequential modeling of laser diode stacks using Zemax: simulation ...

Modeling a real laser diode stack based on Zemax ray tracing software that operates in a nonsequential mode is reported. The implementation of the model is presented together with the geometric and

May 03, 2026

Method For Laser Source Definition in ZEMAX To Enable Realistic ...

1. Abstract By default, optical systems are usually designed for single mode lasers. Nonetheless, many industrial lasers have M2 in the range from 3 to about 100 and are often called "multi-mode" or

Nov 17, 2025

laser diode in zemax simulation

I'm trying to use a laser diode source in my simulation, and after consulting the Zemax documentation, I was able to figure out how to calculate the X and Y divergences based on the laser

Apr 08, 2026

Source Diode

Source Diode The source diode model can be used to define one diode, a 1D array of diodes, or a 2D array of diodes. The parameters are: Angular distribution: Each diode has an intensity distribution

Nov 24, 2025

Source Diode

If more than 1 diode is desired, the number x, number y, delta x, and delta y spacings may be defined. The diodes will be symmetrically placed in the x and y directions about the local coordinate origin.

Jan 14, 2026

Zemax Semiconductor Lasers And Single-mode Fiber Coupling

A method designs of high coupling efficiency fiber coupling system between a single-mode fiber and a laser diode based on Zemax's pure non-sequential components.

Jul 13, 2025

Nonsequential modeling of laser diode stacks using Zemax: simulation ...

Nonsequential modeling of laser diode stacks using Zemax: simulation, optimization, and experimental validation. Modeling a real laser diode stack based on Zemax ray tracing software that operates in a

Nov 14, 2025

Nanostack Laser Diode design | Zemax Community

Could you please help me about how I can design 3 nanostack laser diode in sequential mode. I added the laser diode that I want to design.

Oct 11, 2025

Non-sequential Sources

Any source may be placed inside of any object, or not in any object, but not both (a source may not straddle an object boundary). Next: Contains proprietary and confidential information of ANSYS, Inc.

Contact Us

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

Website: <https://elagage-lorrain.fr>

Email: sales@elagage-lorrain.fr

Phone: +33 6 47 82 19 35

Address: 15 Rue de la République, 69002 Lyon, France

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