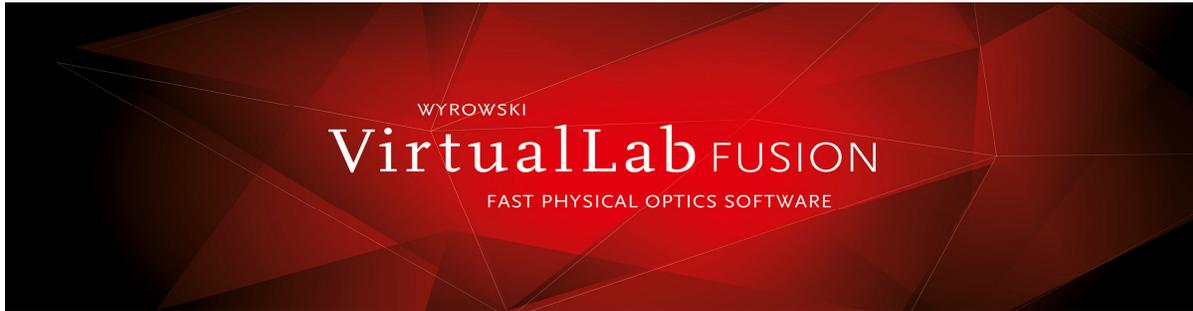


VirtualLab Fusion Version 2020.2

Fast Physical Optics Software

Diffraction, Interference, Polarization, Wavefront Aberrations, Partial Coherence

Simulation, Design, Optimization



Three new surface types

Anamorphic Asphere: biconic surface with additional coefficients that incorporate deviations in both radial and azimuthal directions
Zemax import extended to read the biconic surface into the anamorphic asphere

Q-Type Asphere: described by Q-polynomials

Q^{con} describing strong deviations from a conical surface

Q^{bfs} describing mild deviations from a spherical surface

Zemax import available

Toroidal Asphere: aspherical cross section that is rotated about the y-axis yielding a torus

Zemax import available

Light Guide Footprint and Grating Analysis Tool

Define gratings with modulated parameters within regions on the surfaces of a light guide

Analyze footprint information within a light guide to see light path

Calculate Rayleigh matrix for each direction, grating and order

Rayleigh matrix data stored in lookup tables within regions to speed optimization

See full-featured Light Guide Toolbox for VR/AR/MR applications

Easier to edit the Fourier Modal Method (RCWA) settings for gratings

Evanescent orders can be set to zero

Optical stack types: both periodic and non-periodic

Periodic stacks for grating modeling

Non-periodic stacks for microstructure components

Coating orientation and location:

Coating orientation can be automatic or manual

Coatings can be located between two solid media

New System Modeling Analyzer

Shows intermediate propagation results within a field tracing simulation to better understand propagation steps

Provides the fields in x-domain and k-domain for all input and output channels

New GRIN Component Solver

Runge-Kutta Beam Propagation Method (RK-BPM)

works in the spatial x-domain in a pointwise manner to simultaneously solve

- one ordinary differential equation for the light path

- another ordinary differential equation for the field polarization vector

Shows the field quantities (complex amplitude and polarization)

More New Features in Version 2020.2

Updated detector catalog

MTF detector can calculate maximum line density or wave number for given contrast

Improved pulse evaluation detector

Conversion tools for making it easier to match solvers when switching between components such as microstructures, functional gratings and diffractive lenses

Several improvements for using program snippets from the snippet library, including
documentation
syntax errors and warnings
color schemes
startup command line assistance

Performance improvements

quicker startup

parallel simulation for analysis of stacks in microstructures

faster parameter run for multiple short iterations

Various GUI improvements for speed and ease of use

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