UseCase.0048 (1.0)

Settings and Result Displays of the Ray Tracing System Analyzer Engine

Keywords: 3D ray tracing, ray, system information, analyzer
Description

- This use case explains the configuration options and the result displays of the Ray Tracing System Analyzer Engine.
- It can be used to investigate the 3D information of your optical setup.
- The analyzer is added by default to a new or loaded light path diagram (LPD):

![Ray Tracing System Analyzer](image)

- The analyzer has several options which can be accessed via the edit dialog of the analyzer.
- The user can set up options for:
  - Ray Selection
  - Ray Visualization
  - System Visualization
Ray Tracing System Analyzer – Options

• The analyzer allows you to specify whether to use the ray selection of the source or to define it individually.

• Method to select the rays can be chosen:
  – on x-y-Grid
  – hexapolar
  – random

• Each selection mode has individual parameters that can be specified.
Ray Tracing System Analyzer – Options

- The user can also specify the ray thickness and the stride that shall be used in the 3D view as default.
- The default coloring can also be selected.
- These options can be adapted later within the 3D view if so desired.
Ray Tracing System Analyzer – Options

- The system visualization tab allows the specification of the initial system view.
- The user can specify whether the camera position of the view shall be rotatable or fixed (explicit fixed mode can be specified).
- Additionally the background coloring can be pre-configured.
- These options can be adapted later within the 3D view if wanted.
Ray Tracing System Analyzer – Result
Ray Tracing System Analyzer – Result

• The result of the Ray Tracing System analyzer allows you to investigate the 3D information.
• The options for the view can be configured via the view ribbon on the top of the VirtualLab window:
• Additionally the result view allows the investigation of the 2D ray information on every surface which was handled in the simulation.
• The 3D / 2D information can be toggled via tabs.
Ray Tracing System Analyzer – Result

- The 2D information to show can be selected in the combo box at the top of the result window.
- The options of the 2D view can be configured in the ribbon, the property browser and the context menu.
- The 2D view settings are the same as those for the result display of the Ray Tracing engine.
Summary

• To investigate the general configuration of your system 3D ray tracing results are very helpful.
• In VirtualLab this output can be generated by the light path element Ray Tracing System Analyzer.
• By configuring the different view options the user can generate the information of interest.
• The 3D ray tracing view can be configured nicely for presentations.