

Feature.0012

Position and Orientation Information Display Control

An brief instruction on the control of position and orientation information display in VirtualLab

About This Use Case

- The following toolbox is required
 - Starter toolbox
- This use case is produced with VirtualLab Fusion (Build 7.0.0.35).
- Get your free Trial Version <u>here</u>!

This Use Case Shows ...

 how to set up the position and orientation information display in a Light Path View.



- On-axis situation
 - Build up a simple on-axis optical system, and we use the system on the right as an example.



For such an on-axis situation, it may be superfluous to see the full 3D position information

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- On-axis situation
 - Build up a simple on-axis optical system, and we use the system on the right as an example.
 - To leave only the on-axis position information for display, right click on the empty area in the LPD, go to *Position Controls* and select *z-Position Only*.



- Off-axis situation
 - Click on the position tab below the Ideal Lens, and give a 2mm shift along xaxis.



- Off-axis situation
 - Click on the position tab below the Ideal Lens, and give a 2mm shift along xaxis.
 - Then, a small axes icon is displayed alongside the zposition value, which indicates extra position information other than that in z-direction.



- Off-axis situation
 - Click on the position tab below the Ideal Lens, and give a 2mm shift along xaxis.
 - Then, a small axes icon is displayed alongside the zposition value, which indicates extra position information other than that in z-direction.
 - Switch back to full 3D position, the small icon disappears.



Basal Orientation Display

- Tilted Component
 - Enter the edit window of the Ideal Lens, in the Position/Orientation tab, we set a rotation of 5° around x-axis.

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	Spherical Wave	Detector
	X: 1 mm Y: 0 m Y: 0 m	
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ame M heric us FL mpone	Basel Positioning Position Information (Absolute) Position this Element's Input Axes with Respect to Reference Element 0: Spherical Wave Reference Output Channel	Enter Absolute Positioning Data 0 m
	Orientation Definition Type Sequence of Axis Rotations ~	(;;;) 5 ° 1 1 1 1 1 1 1 1

Basal Orientation Display

- Tilted Component
 - Enter the edit window of the Ideal Lens, in the Position/Orientation tab, we set a rotation of 5° around x-axis.
 - Then, a small "rotation" icon appears alongside the position tab of the Ideal Lens.



Basal Orientation Display

- Tilted Component
 - Enter the edit window of the Ideal Lens, in the Position/Orientation tab, we set a rotation of 5° around x-axis.
 - Then, a small "rotation" icon appears alongside the position tab of the Ideal Lens.
 - In Position Controls, we switch to Position & Orientation, then the small icon disappears and full information shows up.



Isolated Position and Orientation

- Basal + Isolated
 - In addition to basal position/orientation, it is often useful to set up additional isolated ones for the purpose of e.g. tolerancing.
 - Under Isolated Positioning tab, we set a translation
 Delta Y equal to -800 µm, and a X-Axis Rotation of 0.33°.

lit Ideal Lens		×
Geometry / Channels	Basal Positioning Isolated Positioning Position Information (Absolute) Position and Orientation Image: Second	
Position / Orientation	Translation Directions Axes Selection Axes of the Internal Coordinate System	
Function	Translation Values Delta X 0 m Delta Y -800 µm	
Geometry Channels Position / Orientation	Image: Content of Steps Image: Content of Steps Image: Content of Steps Image: Content of Steps Image: Translation Parameters Orientation Parameters Center Point of Rotations Reference Point to be Used as Center Point Center of Plane of Function Image: Isolated Orientation Angles	
Function	Orientation Definition Type Sequence of Axis Rotations ~ (##) Image: Direction Definition Direction Definition Image: Axis Fix Angle / Axis Value Image: Axis Image: Axis Image: Axis Image: Axis Image: Axis <td< td=""><td></td></td<>	

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Isolated Position and Orientation

- Basal + Isolated
 - In addition to basal position/orientation, it is often useful to set up additional isolated ones for the purpose of e.g. tolerancing.
 - Under Isolated Positioning tab, we set a translation
 Delta Y equal to -800 µm, and a rotation of 0.33° along x-axis.
 - Then, the combined effects will be displayed.



Isolated Position and Orientation

- Basal + Isolated
 - For the display, it is possible to switch off the influence from isolated position by uncheck the option *Include Isolated Position*.
 - Then, VirutalLab displays the position information of the ideal lens in italic, to indicate Basal Only.



Document & Technical Info

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