

Position and Orientation Information Display Control

Abstract



In VirtualLab Fusion, users can select which information of position and orientation to be shown. When user selects a compact display version, small icons appear when other terms of position and orientation, which are not displayed, are setted. This use case shows how to set up the position and orientation information display in a Light Path View. Different display options will be discussed and presented.

Modeling Task

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



- On-axis situation
 - Build up an on-axis system with a spherical wave source, an ideal lens for collimation, and a camera detector at the end.



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

- On-axis situation
 - Build up an on-axis system with a spherical wave source, an ideal lens for collimation, and a camera detector at the end.
 - 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.

21 -	Basal Positioning Isolated Positioning Position In	formation (Absolute)
	Position this Element's Input Axes with Respect to	0
Geometry /	Reference Element 0: Spherical V	Nave Enter Absolute
Channels	Reference Output Channel	Data
1	Relative Distance on Axis	
	Delta Z	10 mm
Drientation		
	Lateral Shift	
	Delta X 1 mm	Delta Y 0 m
₽		
Function	Inclination / Rotation	
	Orientation Definition Type Sequence	ce of Axis Rotations \checkmark (:::)
	i	
	Direction Definition	
	Axes Angle / Axis	Value
	1 X-Axis Rotation 🗸	۶°
		+-

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°.

dit Ideal Lens	>
Geometry / Channels	Basal Positioning Isolated Positioning Position Information (Absolute) Position and Orientation Image: Second
	Translation Directions Axes Selection Axes of the Internal Coordinate System I
Function	Translation Values Delta X 0 m Delta Y -800 µm
Geometry Channels Position / Orientation	Delta Z 0 m Image: Delta Z 0 m

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, VirtualLab displays the position information of the ideal lens in italic, to indicate Basal Only.



Document Information

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