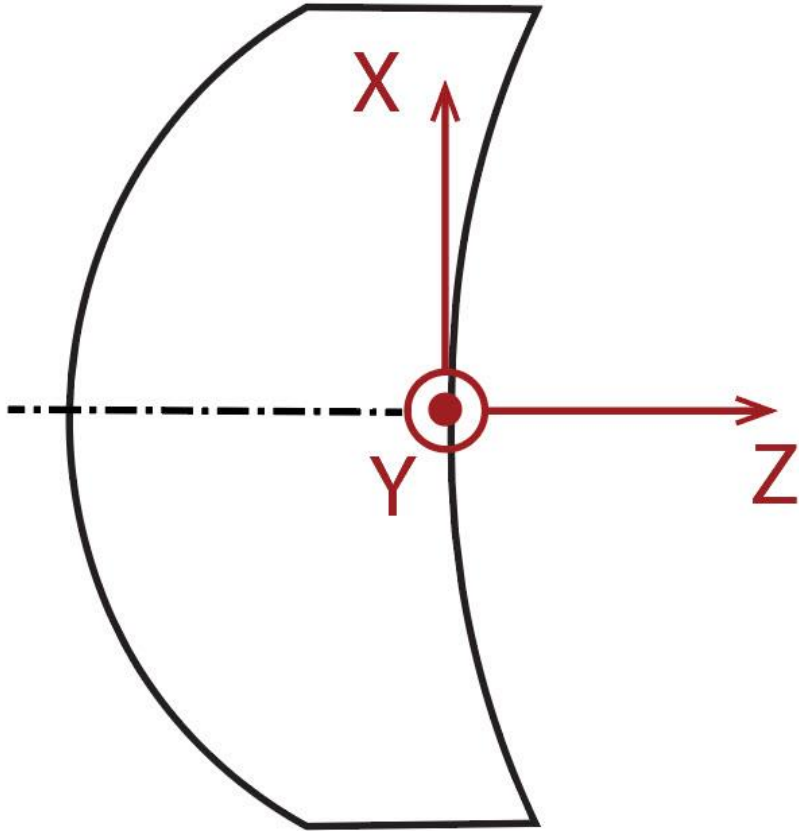


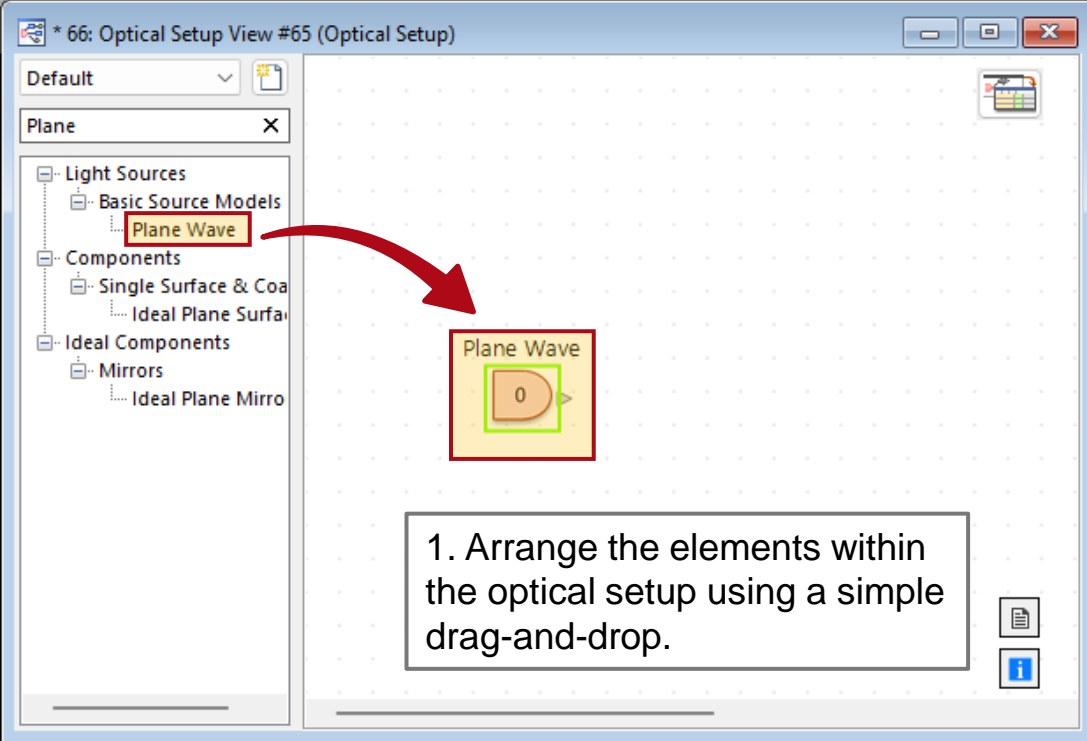
Position and Orientation of Optical Setup Elements

Abstract

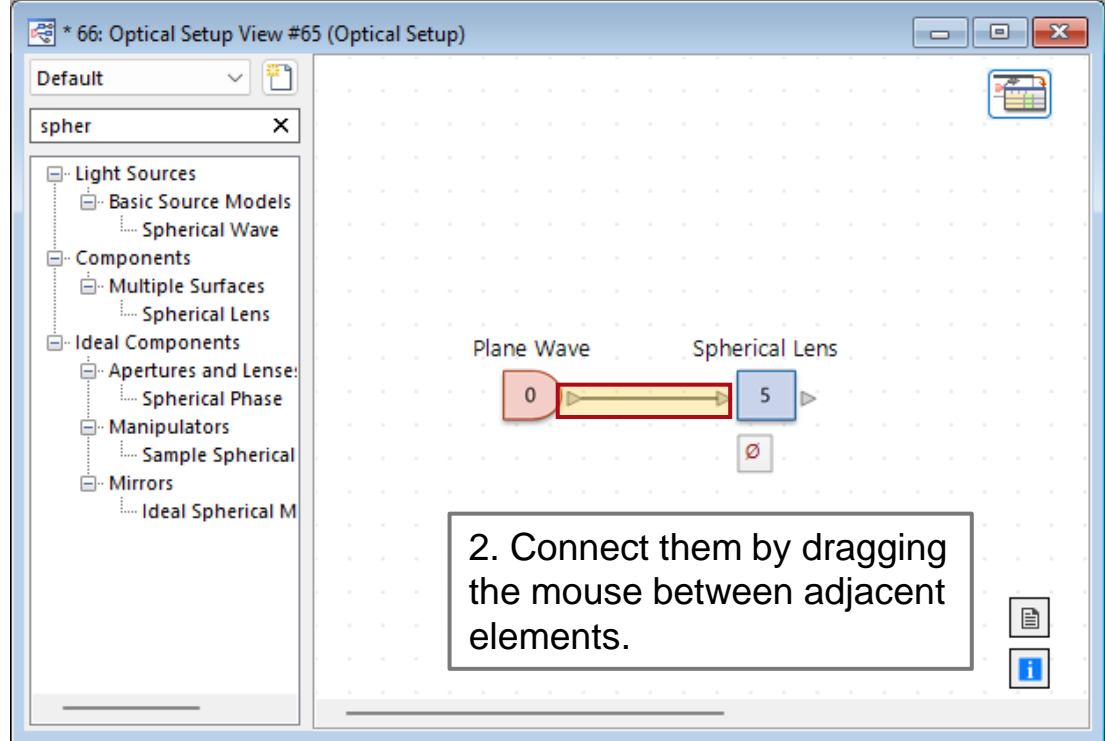


In this use case, we will demonstrate how to configure the position and orientation of optical elements within optical setups. We will demonstrate it by using an example.

Include Elements into the Optical Setup

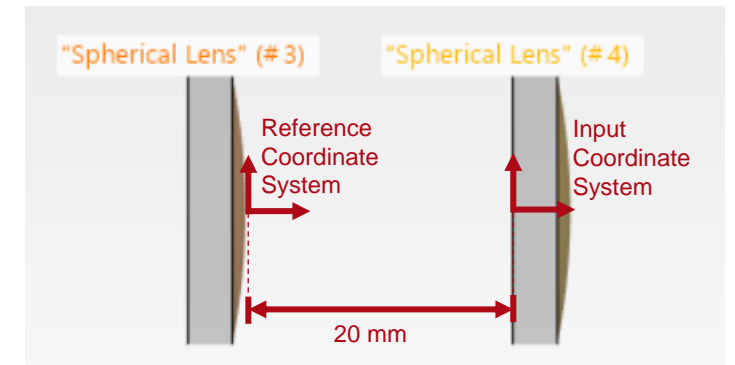
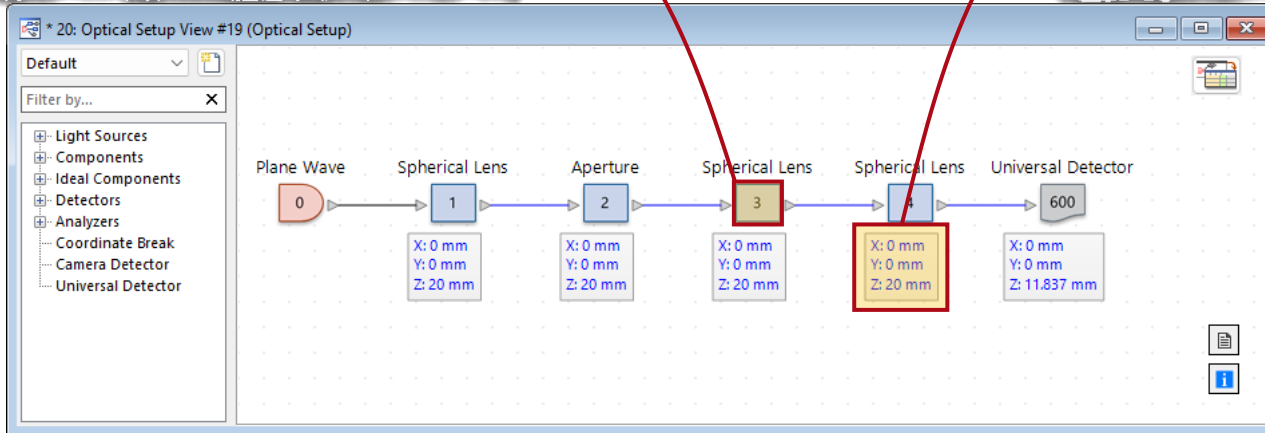
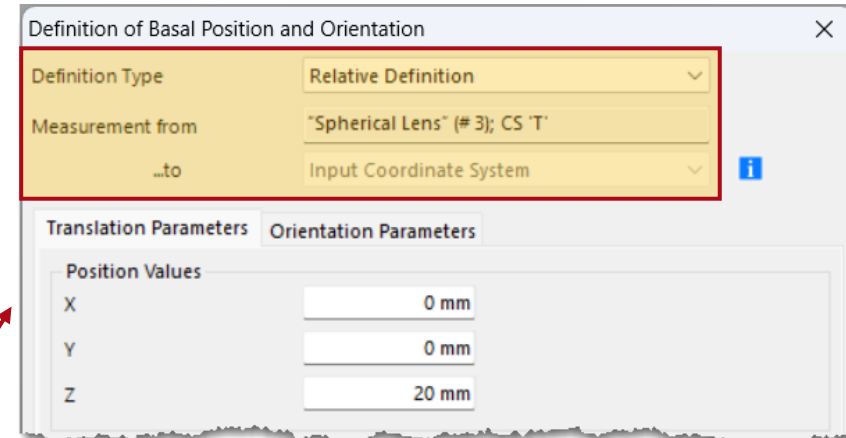
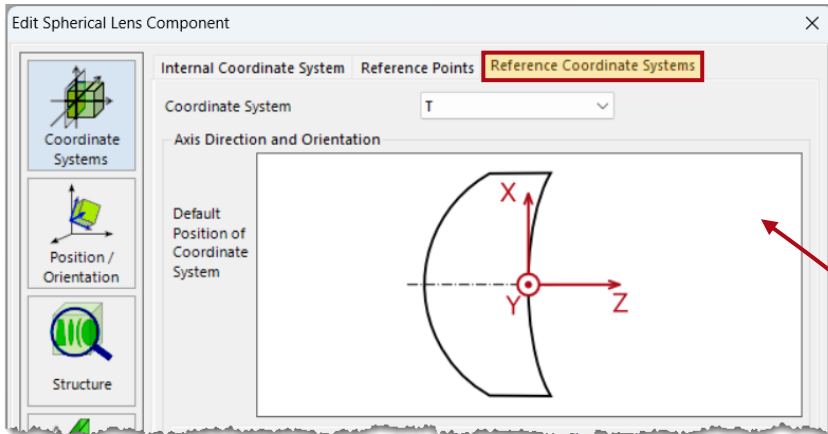


The screenshot shows the 'Optical Setup View #65' window. The left sidebar is expanded to 'Plane', and the 'Plane Wave' element is highlighted in the 'Basic Source Models' folder. A red arrow points from this element to a 'Plane Wave' icon on the main grid. The icon is a yellow square with a green border and a red '0' inside. A text box at the bottom contains the instruction: '1. Arrange the elements within the optical setup using a simple drag-and-drop.'



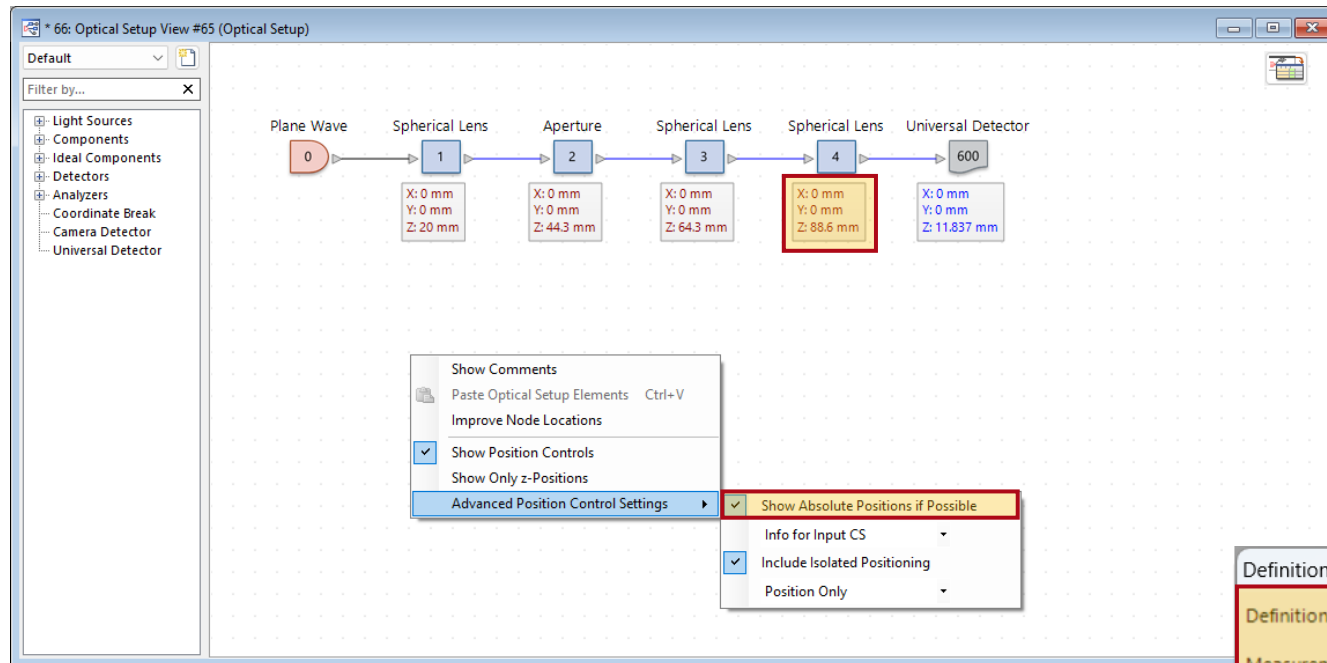
The screenshot shows the 'Optical Setup View #65' window with the 'spher' folder selected in the sidebar. The main grid displays a 'Plane Wave' element (labeled '0') and a 'Spherical Lens' element (labeled '5'). A red arrow connects the output of the 'Plane Wave' to the input of the 'Spherical Lens'. A text box at the bottom contains the instruction: '2. Connect them by dragging the mouse between adjacent elements.'

Positioning of an Element

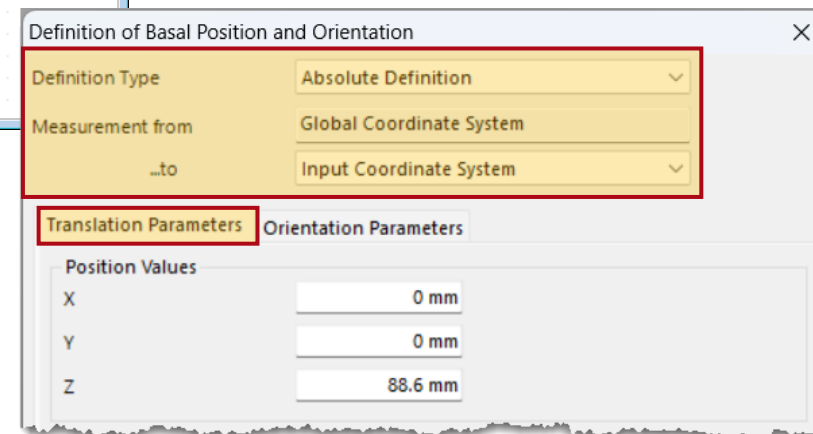
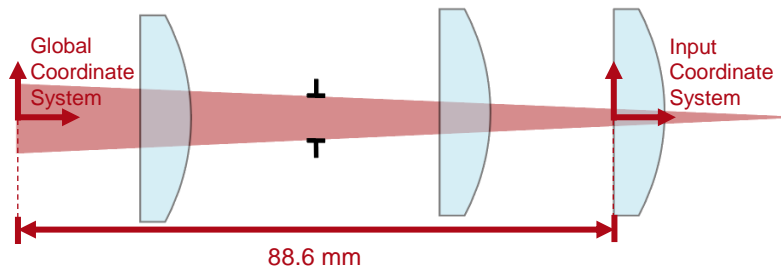


By default, the position of an element is defined by the relative position, that is, by the *Input Coordinate System* position of this element relative to the *Reference Coordinate System* position of the previous element.

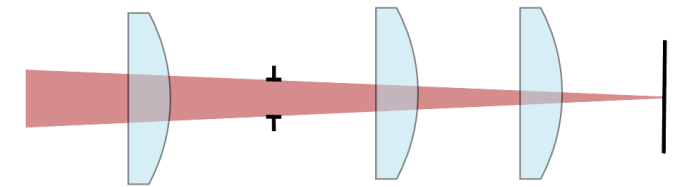
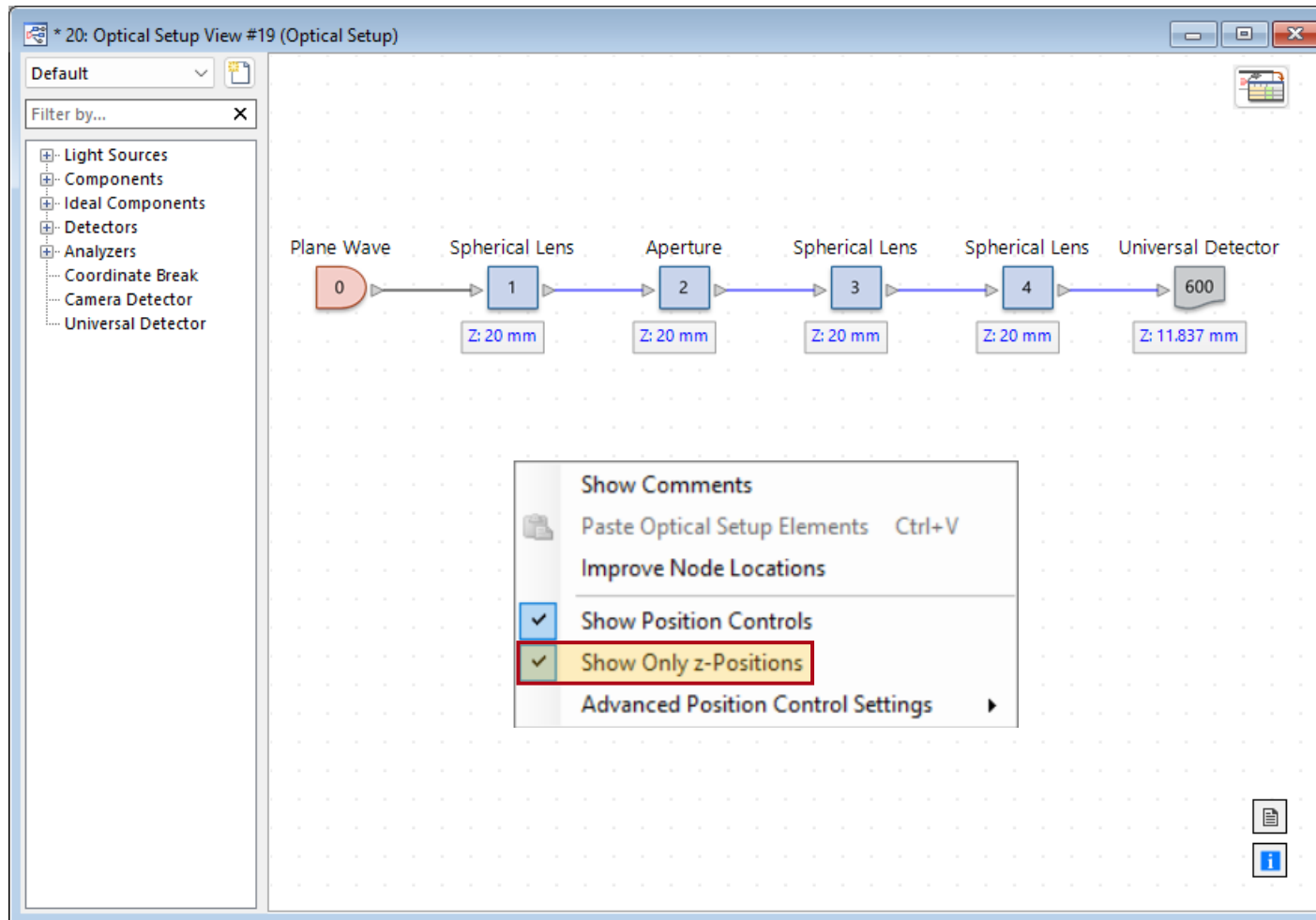
Absolute Position



Alternatively, you can define the position using *Absolute Position*. The absolute position of an element is determined by its *Input Coordinate System* relative to the *Global Coordinate System*, which is established by the position and orientation of the light source.



Show Only z-Positions

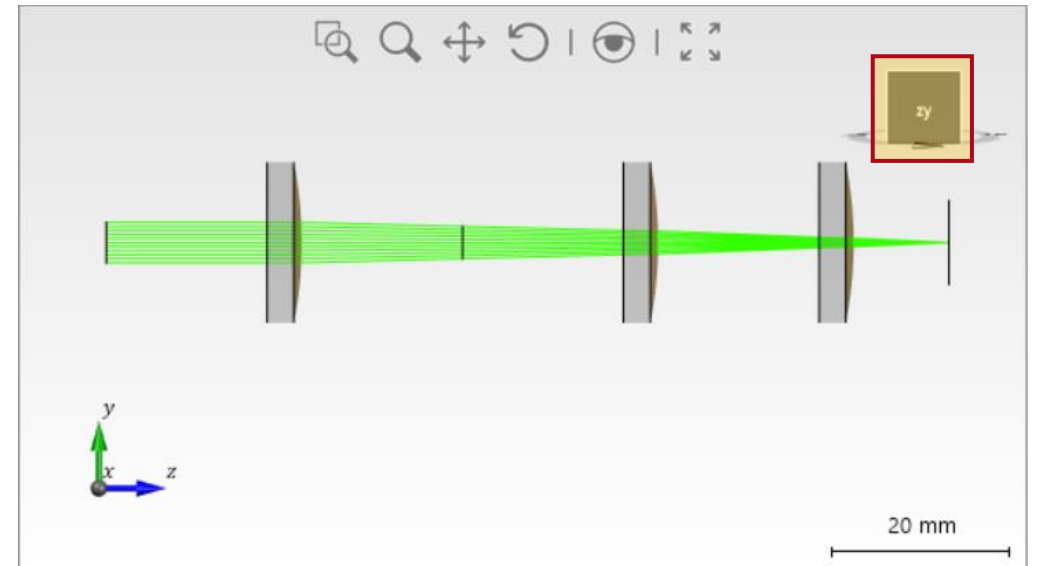


If only the z-position is crucial, you can opt to *Show Only z-Positions*.

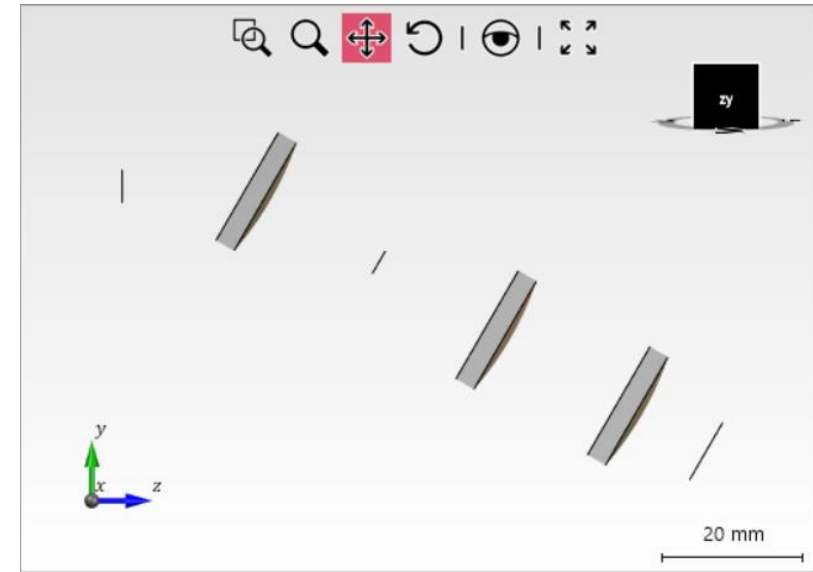
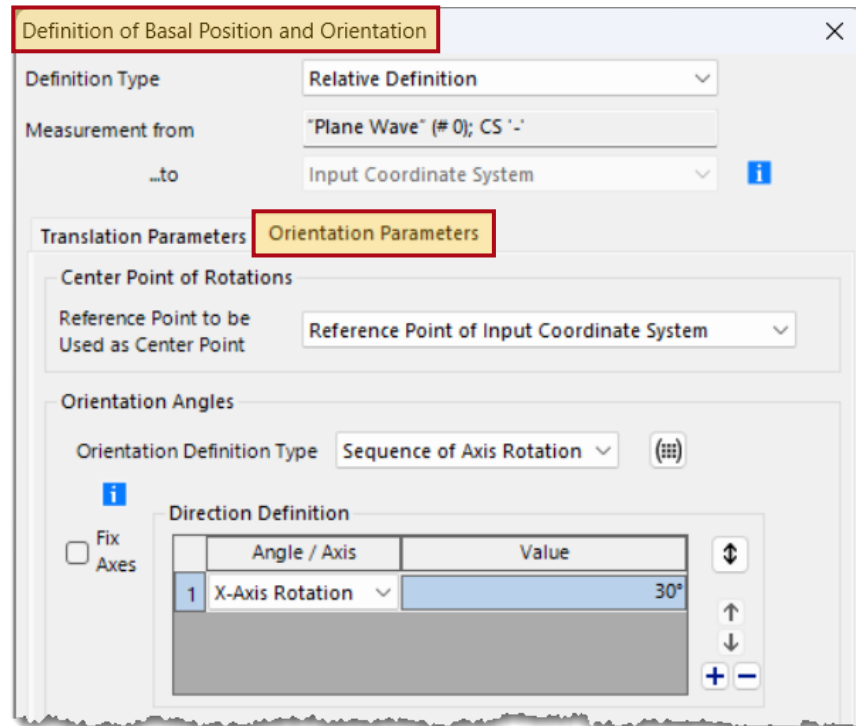
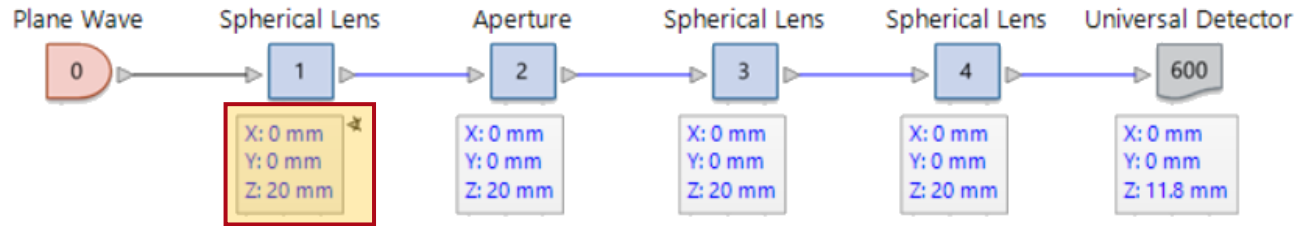
3D View System



You can employ the *System: 3D* to verify the designated position. Additionally, you can choose to display the z-y plane by selecting the relevant camera orientation.

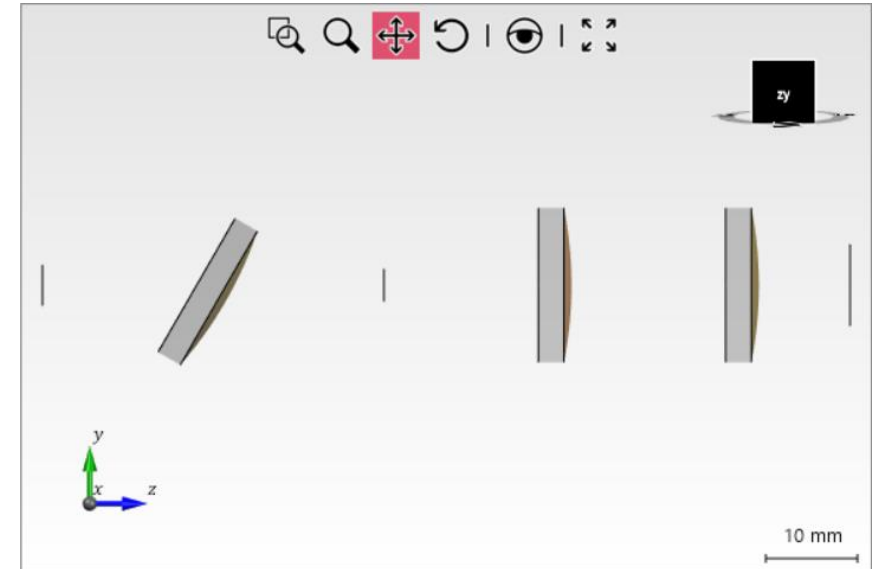
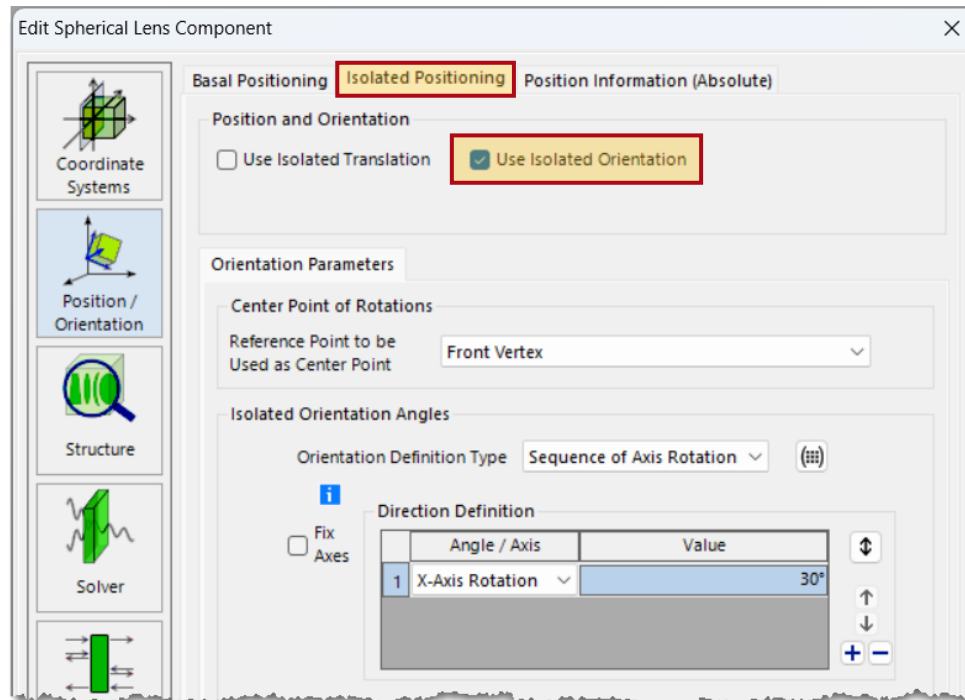
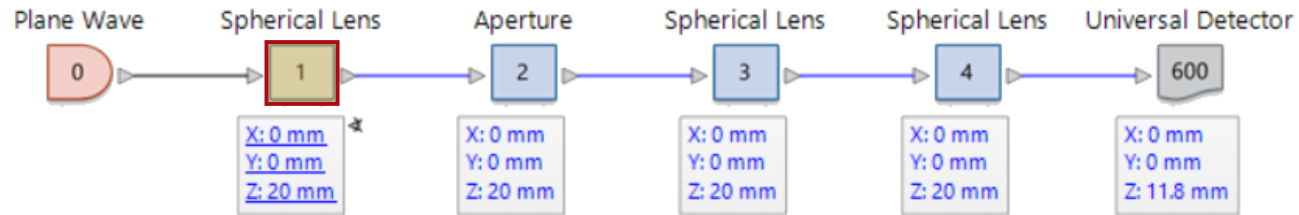


Basal Orientation



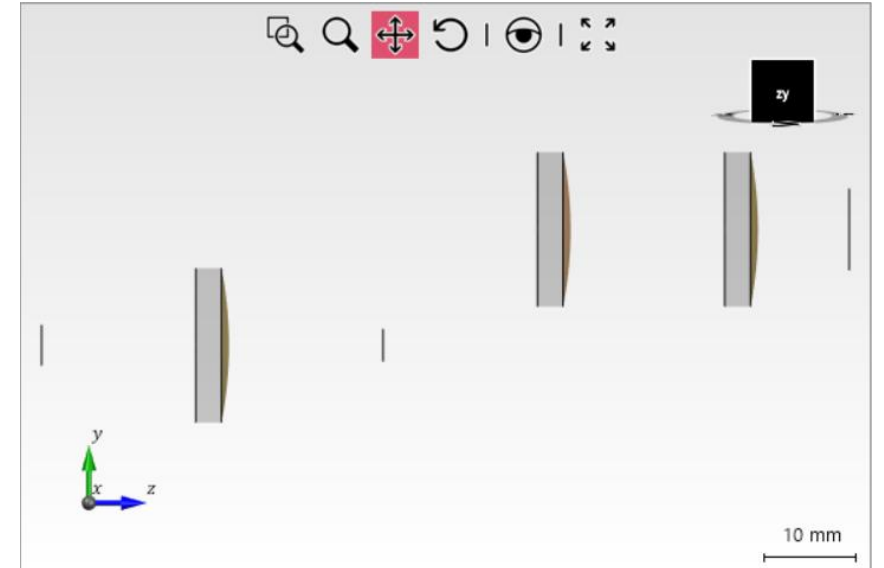
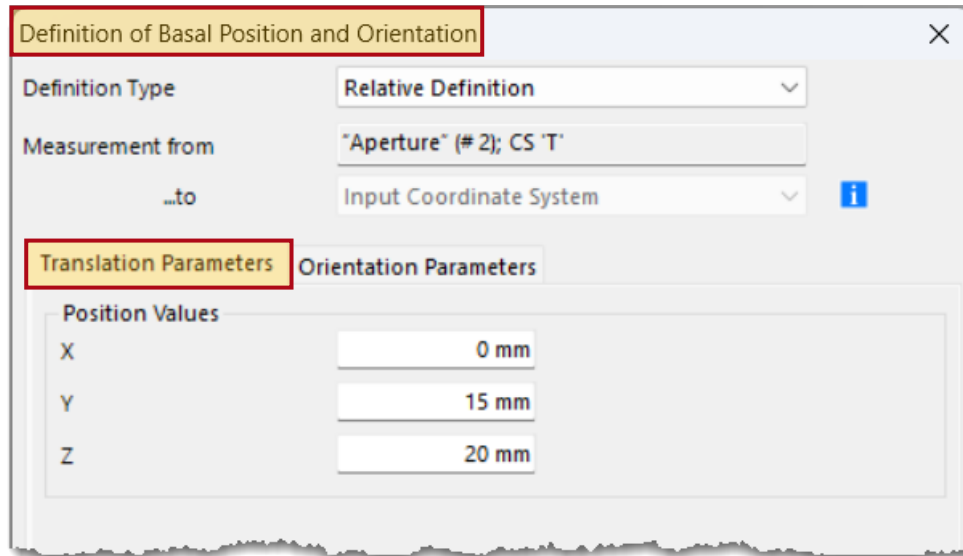
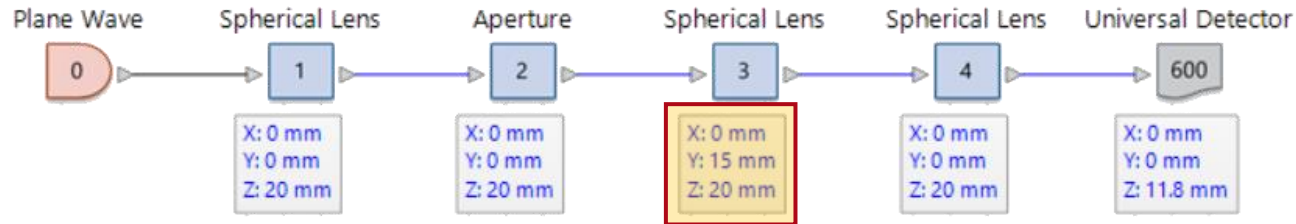
Rotating an element is achieved by configuring the basal *Orientation Parameters*. For instance, consider the 1st spherical lens rotated about the x-axis by 30° . It is important to observe that the positions of all subsequent elements also change simultaneously.

Isolated Orientation



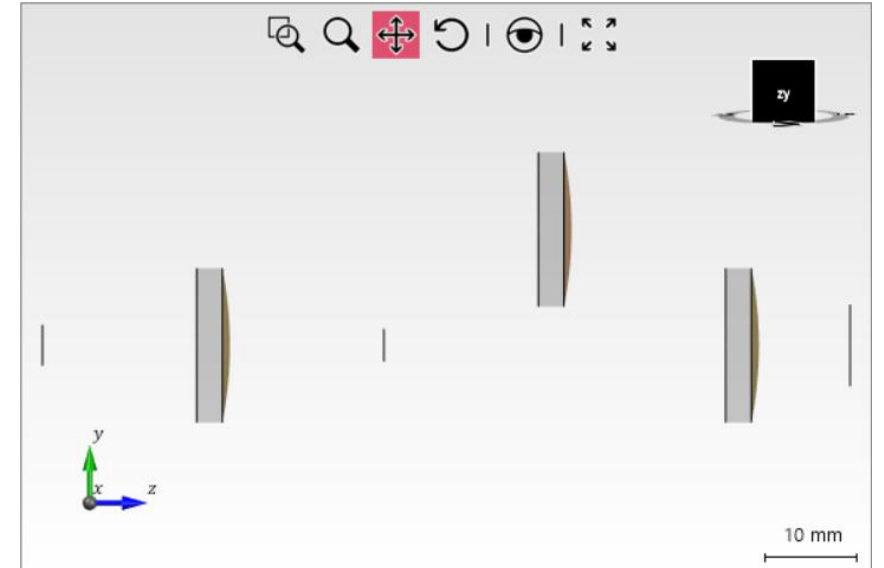
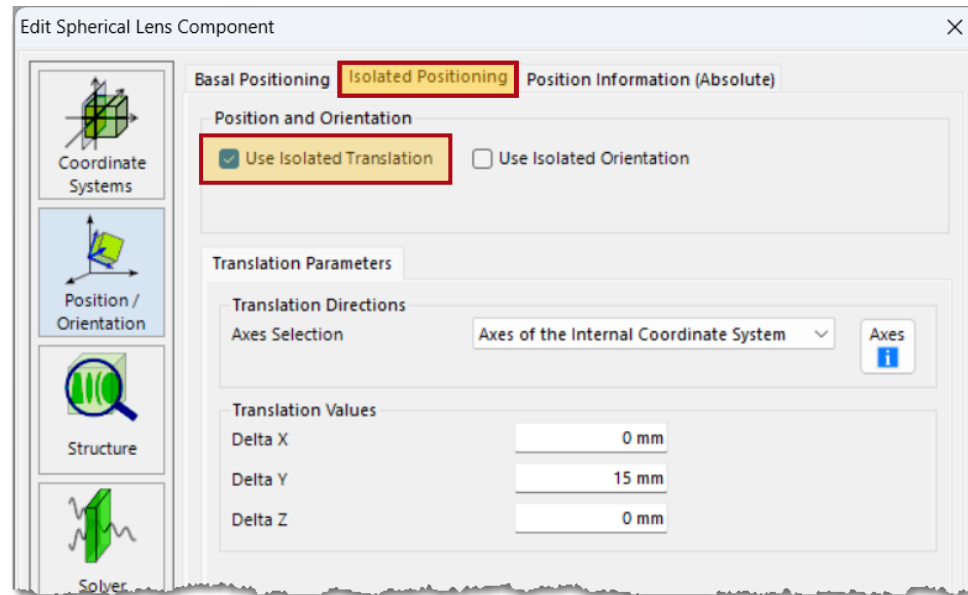
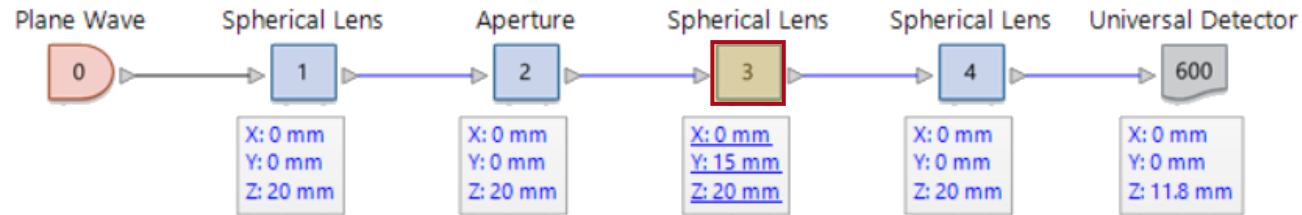
You can *Use Isolated Orientation* to tilt an element. In this case the positions of the subsequent elements remain unchanged.

Basal Translation



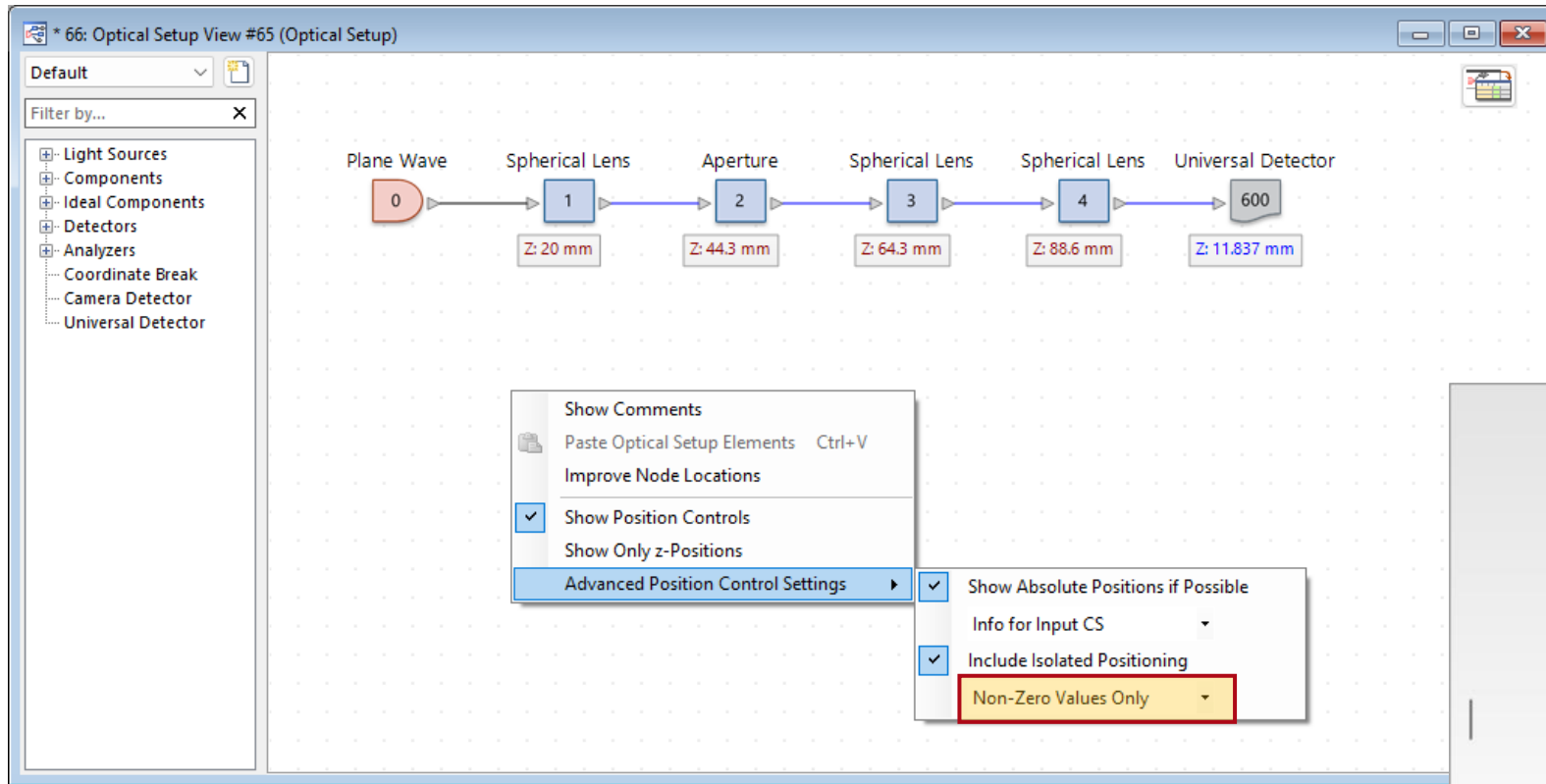
Utilize basal *Translation Parameters* to move an element and the subsequent elements.

Isolated Translation

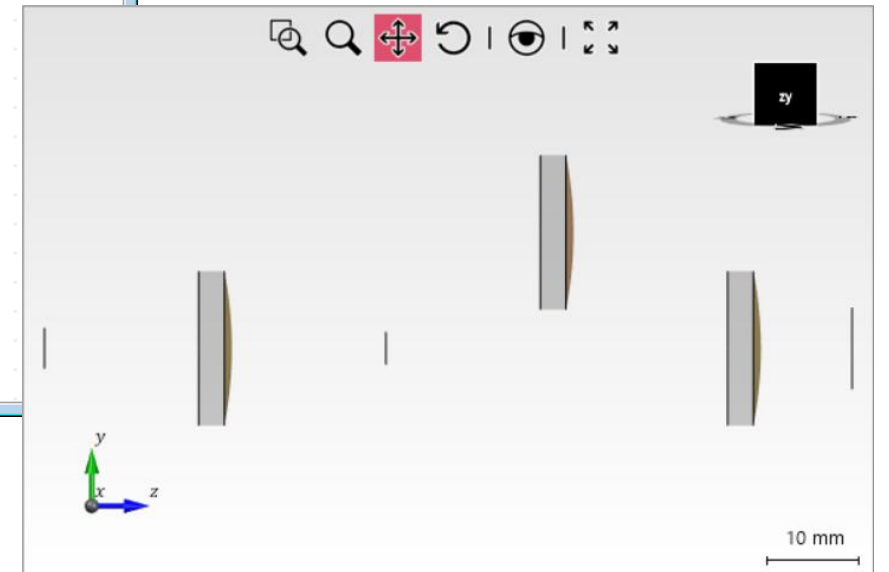


Use Isolated Translation to translate an element without altering the positions of subsequent elements.

Advanced Position Control Setting



In the *Advanced Position Control Setting*, there is an option to display *Non-Zero Values Only* in the optical setup.



Document Information

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