UseCase.0064 (1.0)

Off-Axis Parabolic Mirror (Wedge Type)

Keywords: Off-axis parabolic mirror

Description

- This use case explains the *"Off-Axis Parabolic Mirror (Wedge Type)"* component of VirtualLab.

- An *off-axis parabolic mirror* is a focusing reflector reflecting not directly back into the direction of the incident light.

- The component implemented in VirtualLab bears the by-name *Wedge Type* because it is terminated by a plane interface giving it the shape of a wedge.

- Such off-axis parabolic mirrors are generally used for an off-axis angle of 90°.

- There is also another common type of off-axis parabolic mirrors used for gracing incident.

Edit Dialog
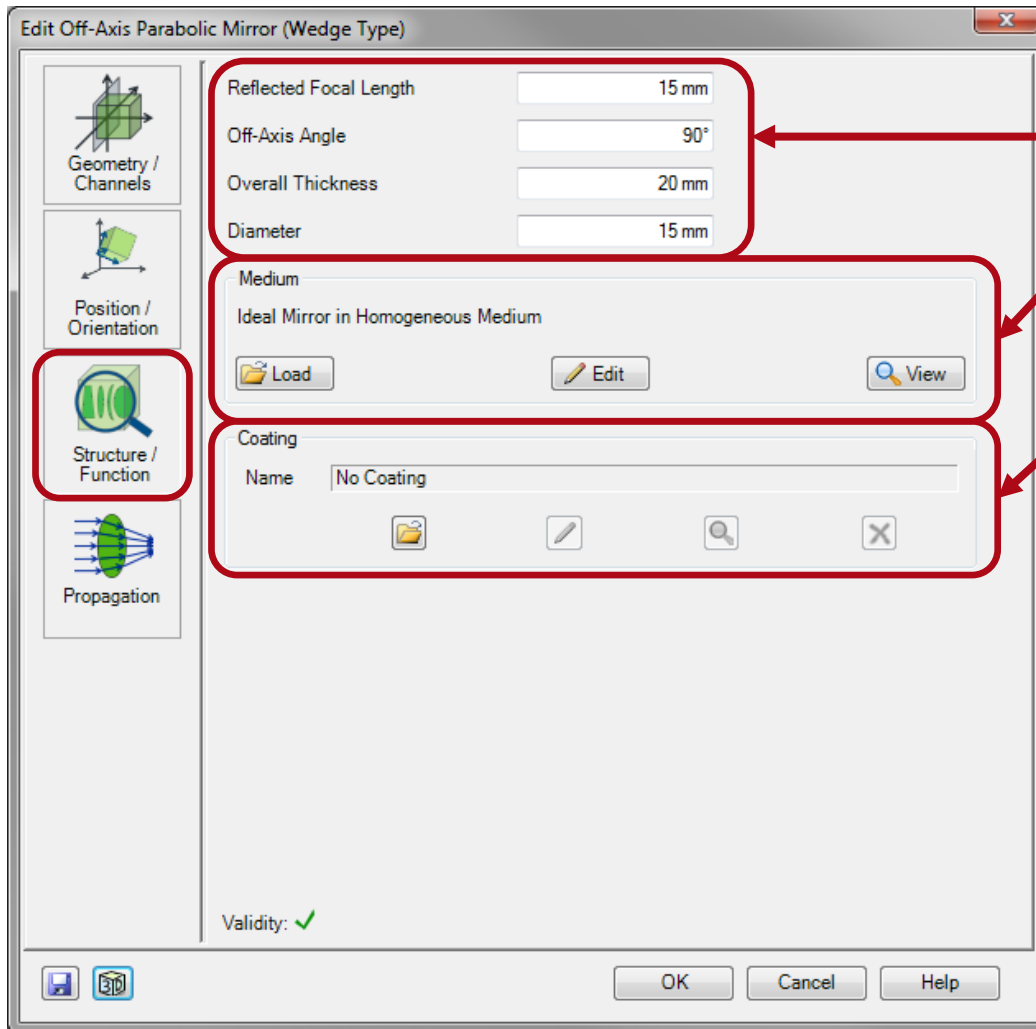
Parameters

| Parameter	Description
Reflected Focal Length	The focal length of the component. Note that this is not the focal length of the parent parabola.
Off-Axis Angle	The angle β between incident and reflected light.
Overall Thickness	The maximum extension T of the component in z-direction.
Diameter	The diameter D of the circular aperture perpendicular to the z-axis of the component.
Medium	The homogeneous medium between the two surfaces.
Coating	If needed you can define a coating applied on both interfaces.
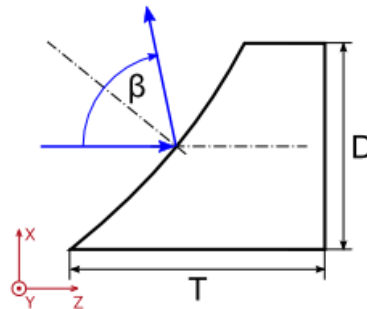
Reference Points

The Off-Axis Parabolic Mirror has special reference points to make its usage as convenient as possible.
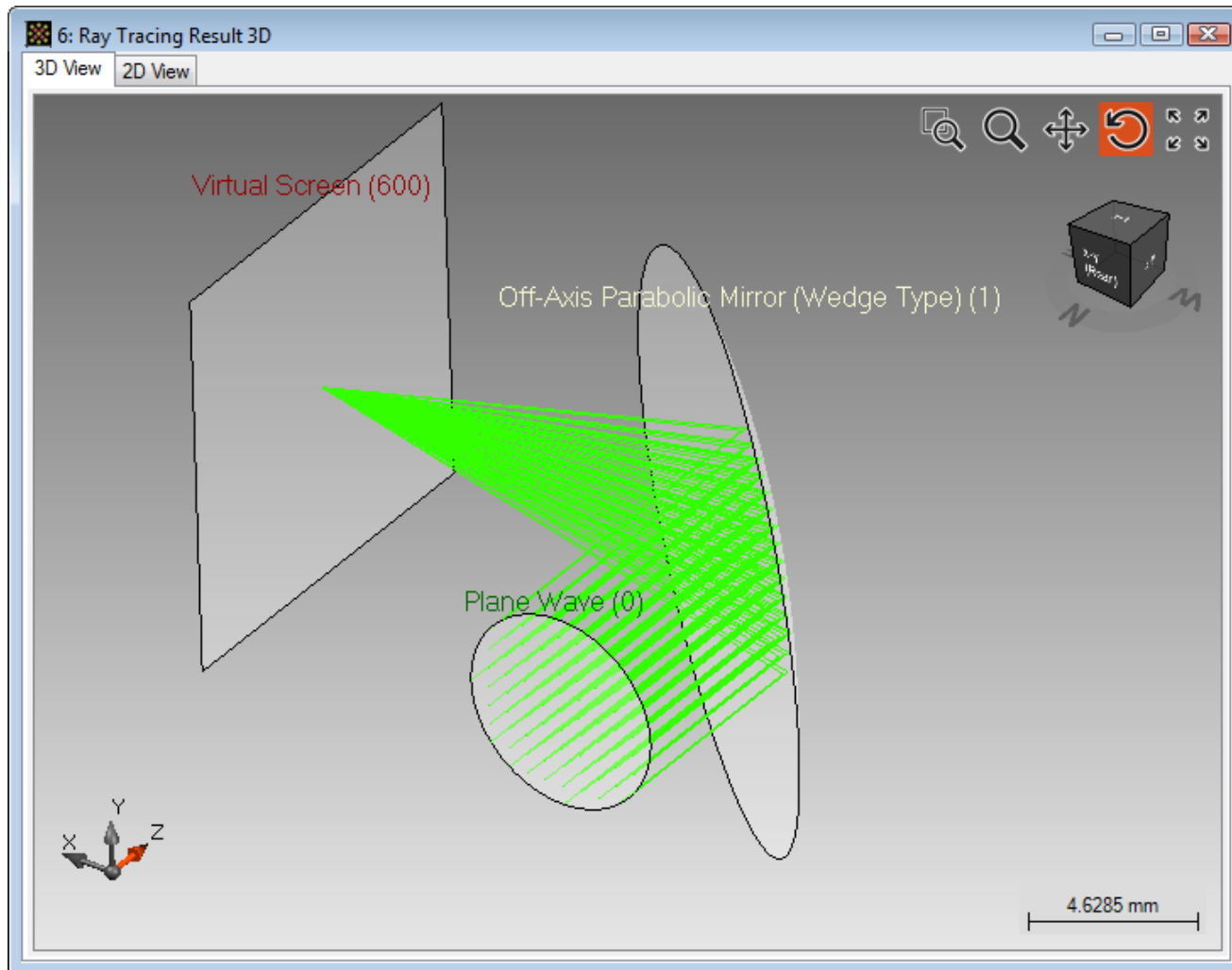
Reference Point	Description
P_0	Surface Center
P_1	Maximum Extension Plane
P_2	Focal Point of Off-Axis Parabolic Mirror
P_3	Parabola Vertex
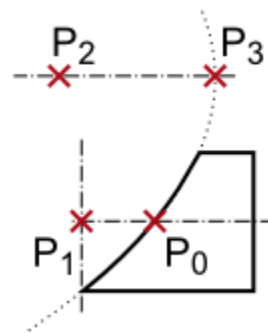
Sample System
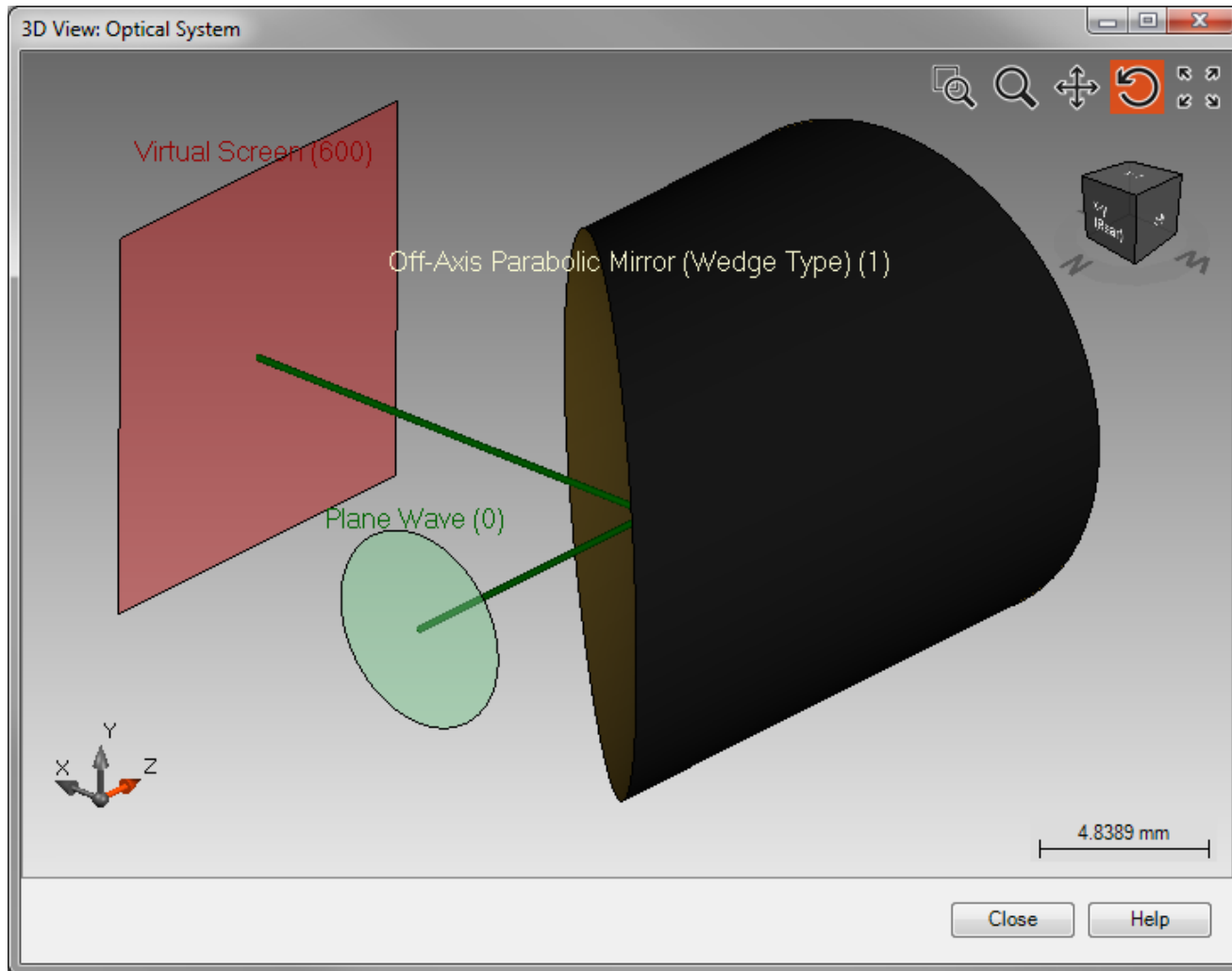
Sample Result (Ray Tracing System Analyzer)

Summary

- VirtualLab offers a very flexible Off-Axis Parabolic Mirror component that can be used for various applications, e.g. for telescope simulations.

- The user can position and configure it using different reference points and even coating materials.