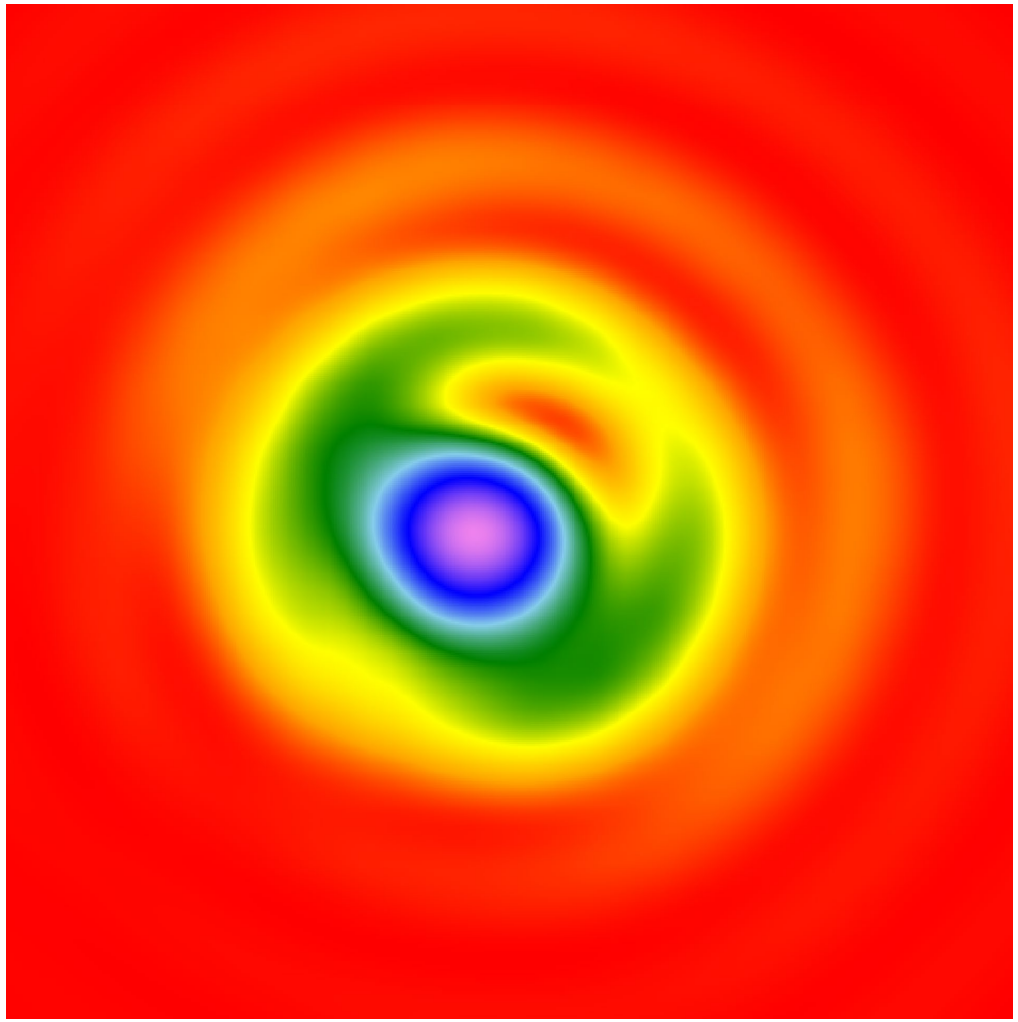
Herrig Schiefspiegler Telescope

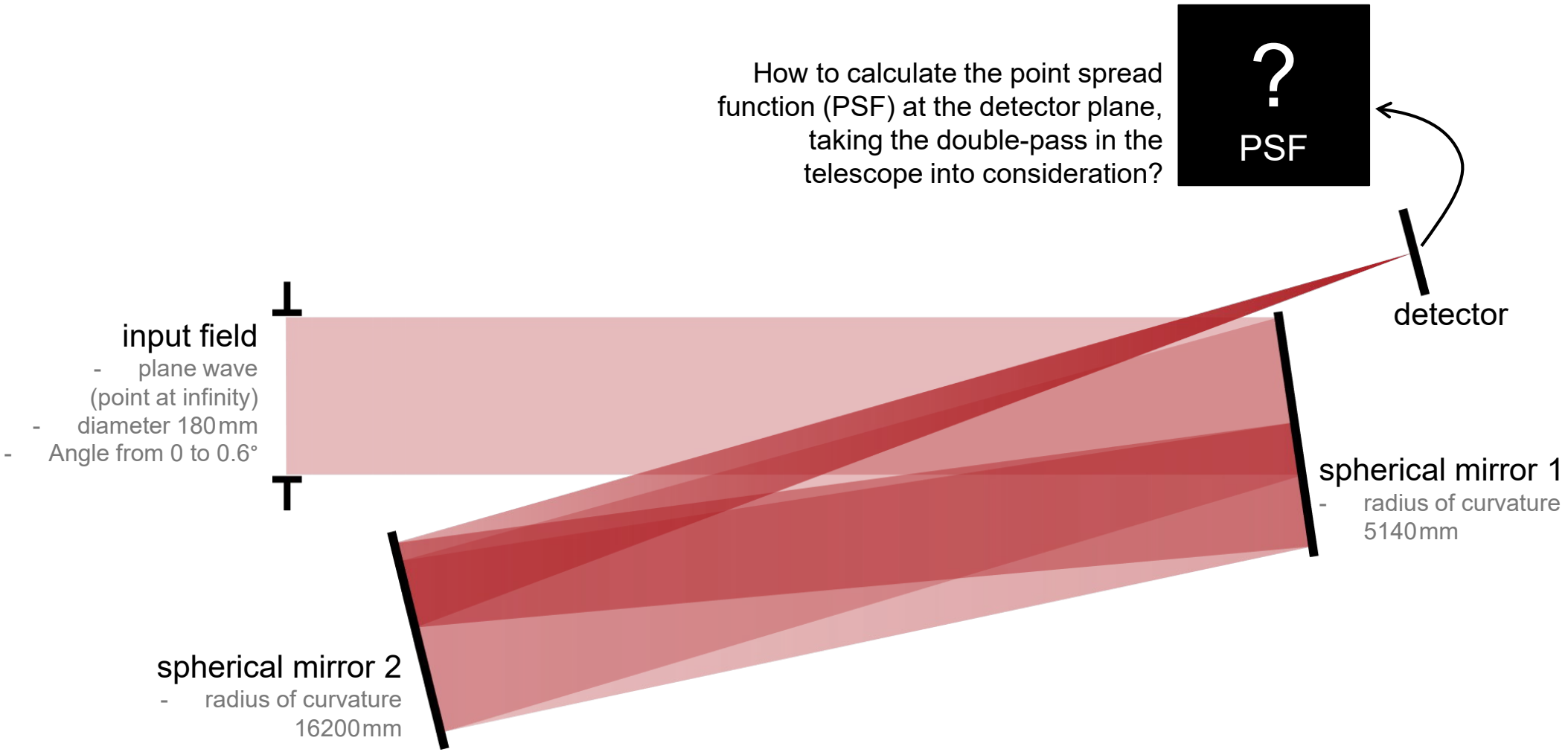
Abstract



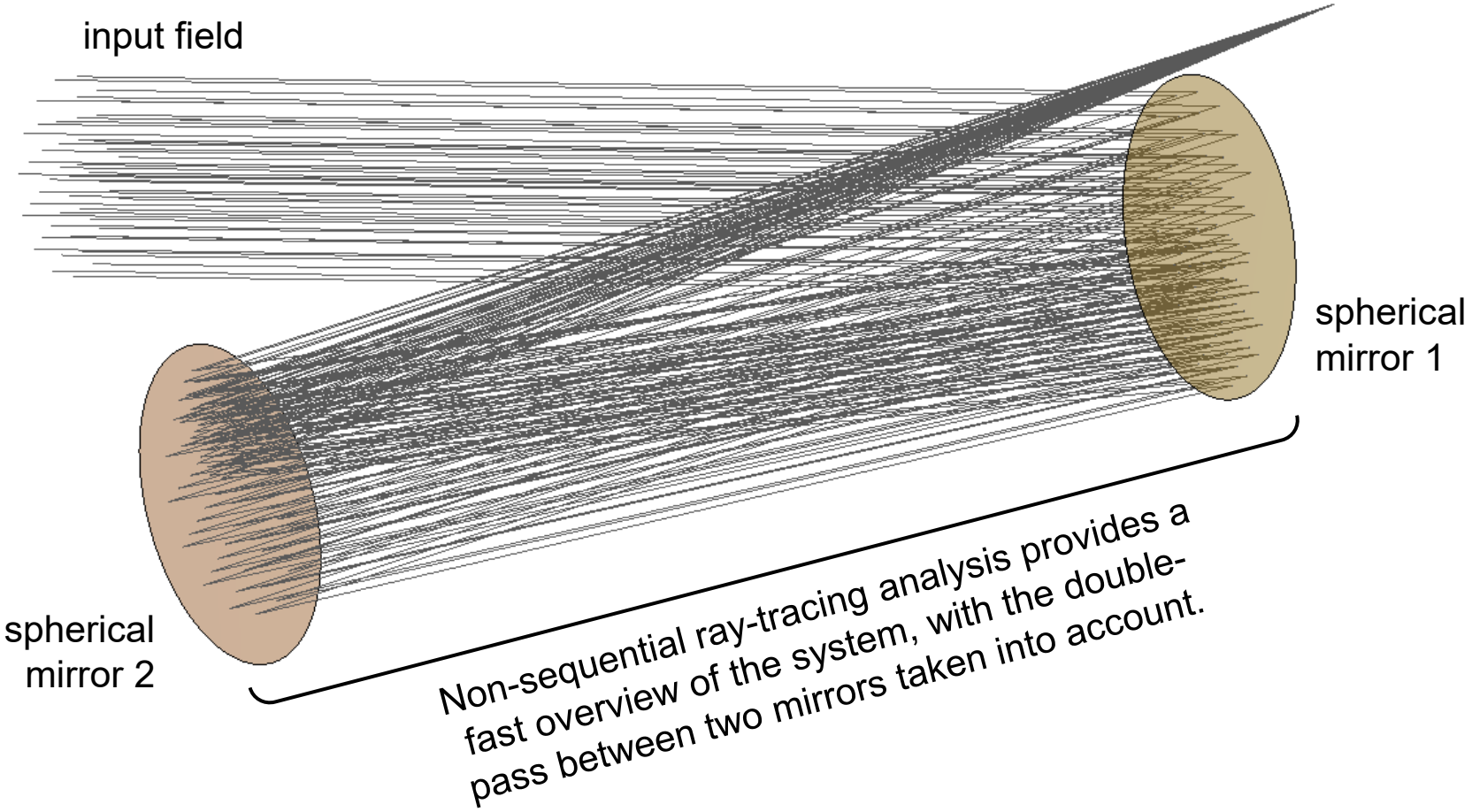
A Herrig Schiefspiegler telescope consists of two spherical mirrors usually with large radii, but with four reflections in a double-pass configuration, which makes the telescope setup very compact. With the non-sequential ray and field tracing techniques in VirtualLab Fusion, a Herrig Schiefspiegler telescope is modeled, with the multiple passes between two mirrors fully taken into account, and the image quality is investigated with respect to different incident angles.

Modeling Task

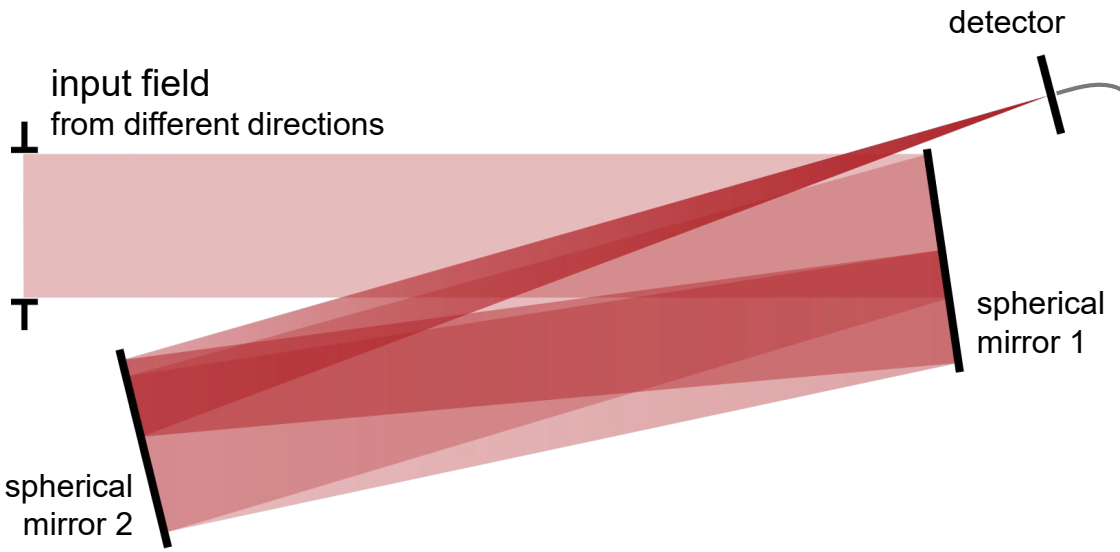
How to calculate the point spread function (PSF) at the detector plane, taking the double-pass in the telescope into consideration?

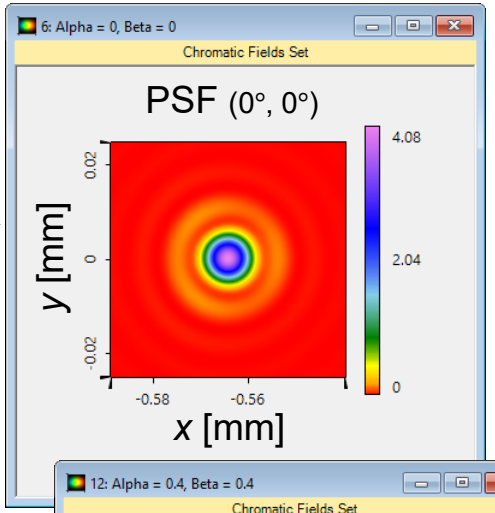


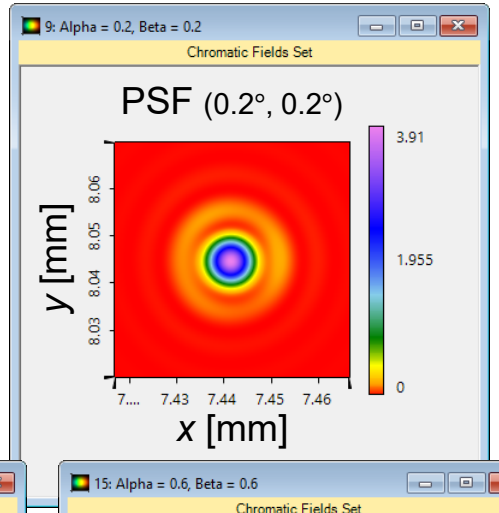
Non-Sequential Ray Tracing

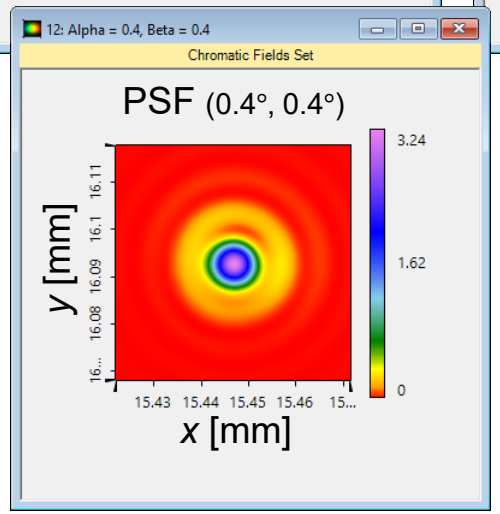


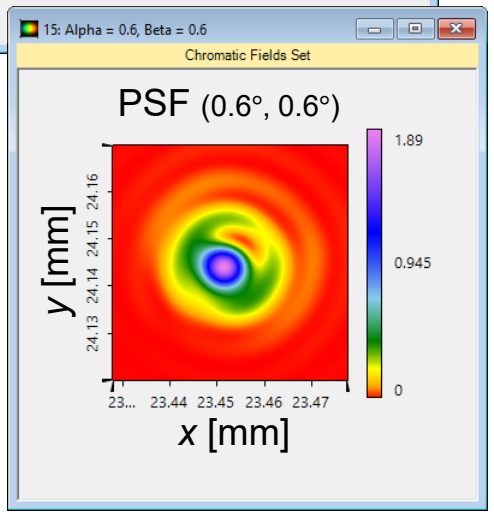
PSF Calculation at Detector Plane











Non-sequential field tracing for the PSF calculation, including double-pass between two mirrors, takes less than 10 seconds

Document Information

title	Herrig Schiefspiegler Telescope
document code	MISC.0053
version	1.1
toolbox(es)	Starter Toolbox (Non-Sequential Extension)
VL version used for simulations	7.4.0.49
category	Application Use Case
further reading	- Advanced PSF Calculation in a High-NA Lens System - Non-Sequential Configuration: How to Use Simulation Settings for Ray and Field Tracing