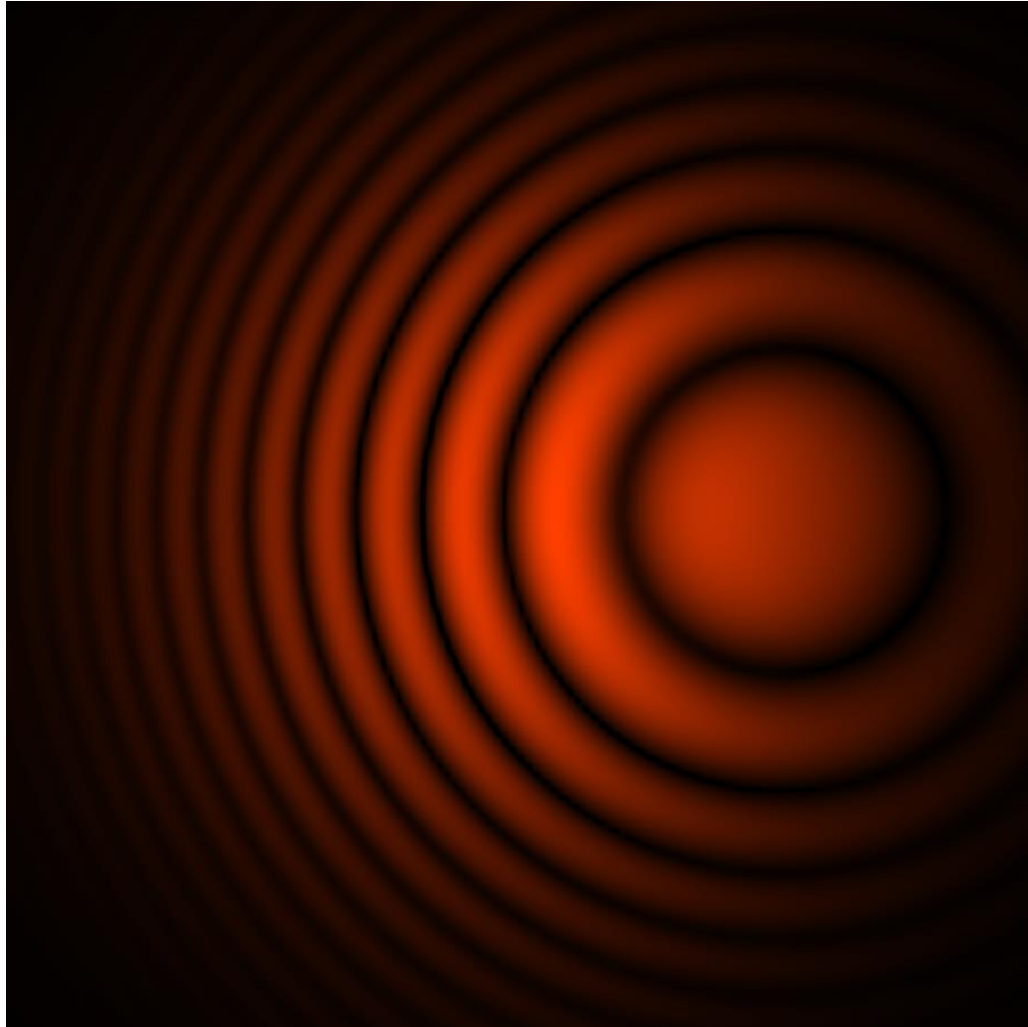


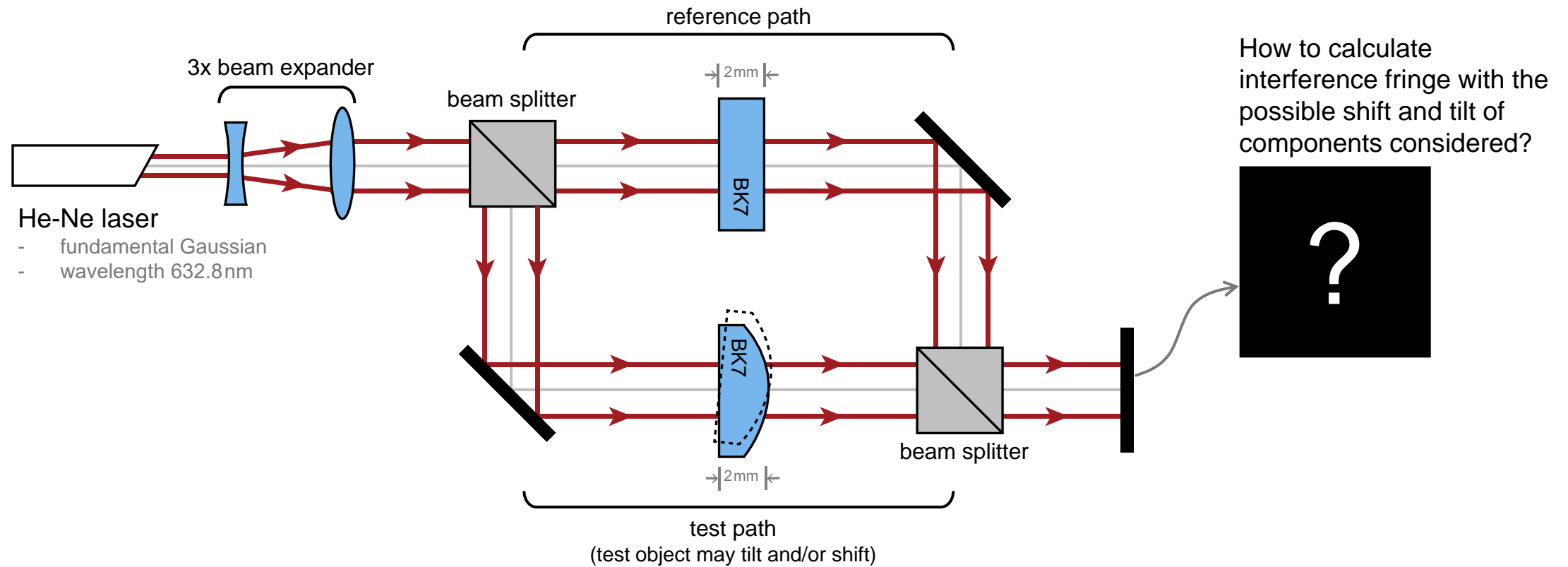
Mach-Zehnder Interferometer

Abstract

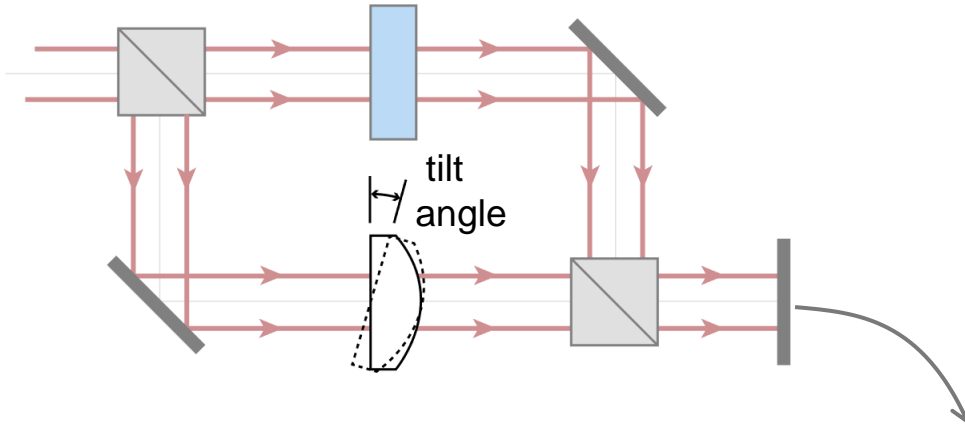


Interferometry is an important technology for optical metrology. It is widely used for the measurements of e.g. surface profile, defects, mechanical and thermal distortion with high precision. As a typical example, a Mach-Zehnder interferometer with coherent laser source is build up in VirtualLab Fusion, with the help of non-sequential field tracing. It is demonstrated that how the tilt and shift of an optical elements may affect the interference fringe pattern.

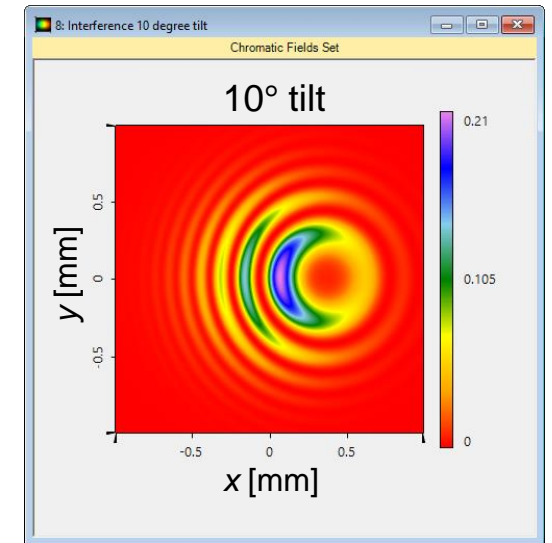
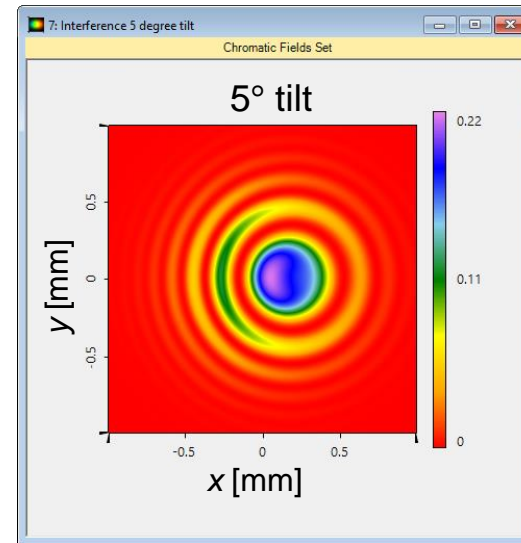
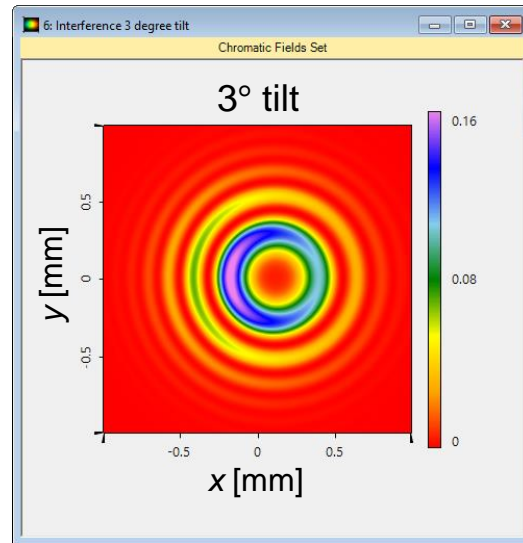
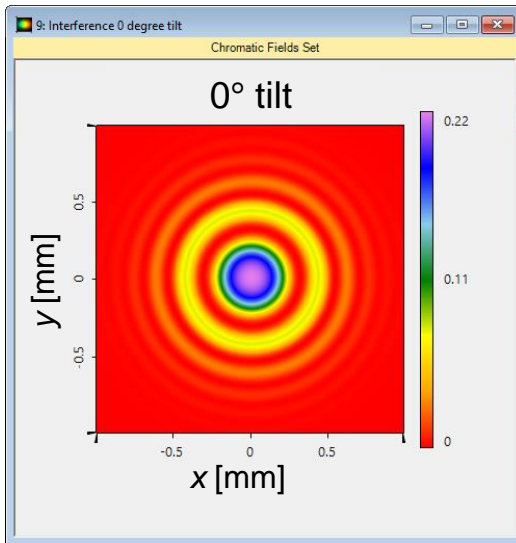
Modeling Task



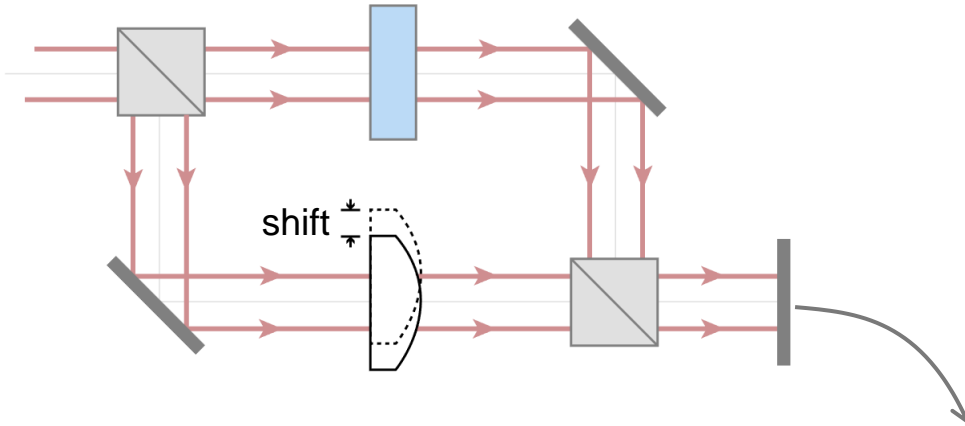
Interference Fringe Due to Component Tilt



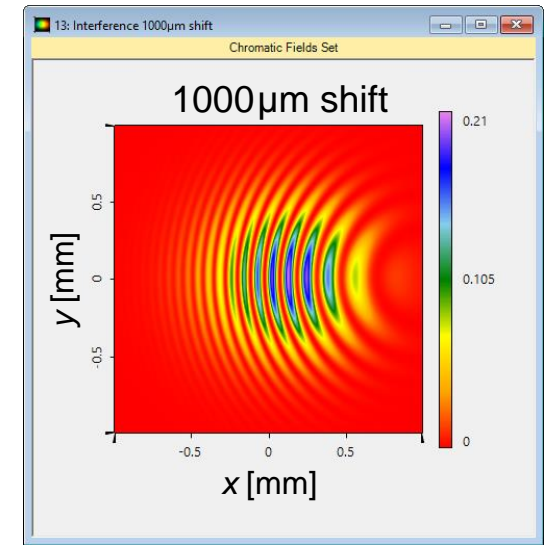
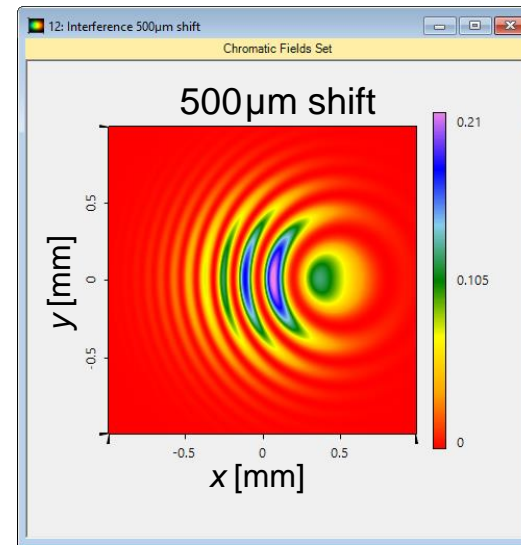
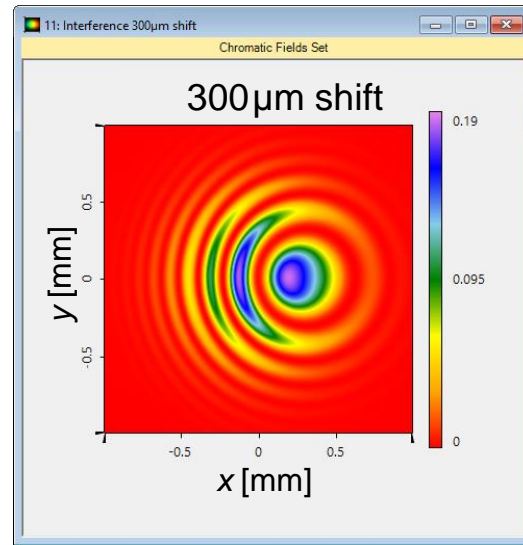
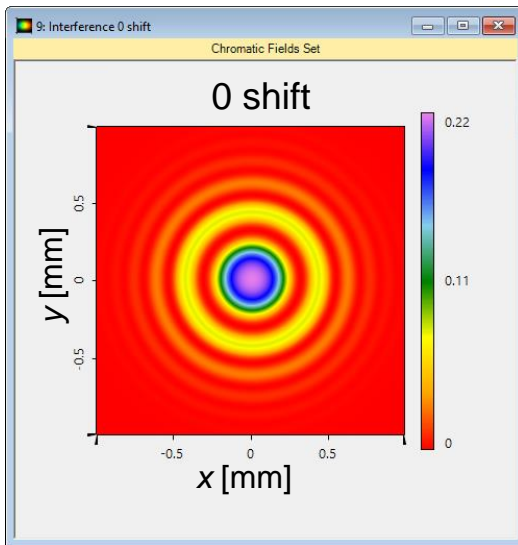
Calculation of interference pattern including element tilt takes less than 2 seconds!



Interference Fringe Due to Component Shift



Calculation of interference pattern including element shift takes less than 2 seconds!



Document Information

title	Mach-Zehnder Interferometer
document code	IFO.0005
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	<ul style="list-style-type: none">- Laser-Based Michelson Interferometer and Interference Fringe Exploration- Fizeau Interferometer for Optical Testing