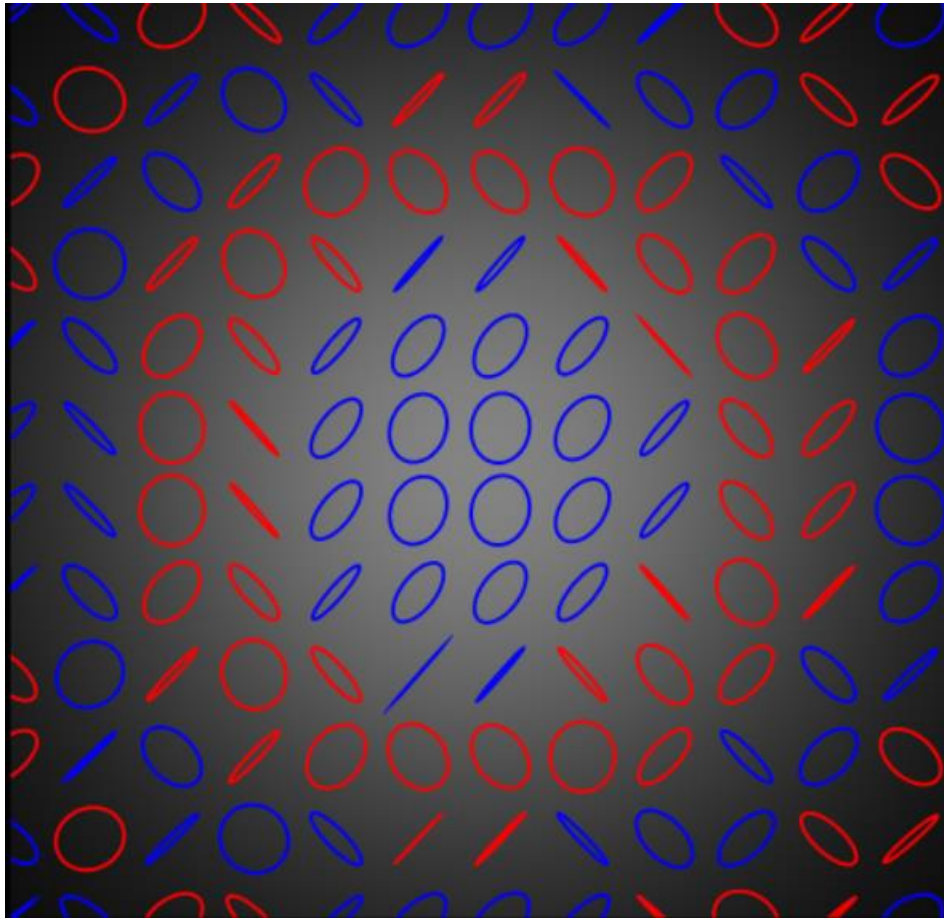


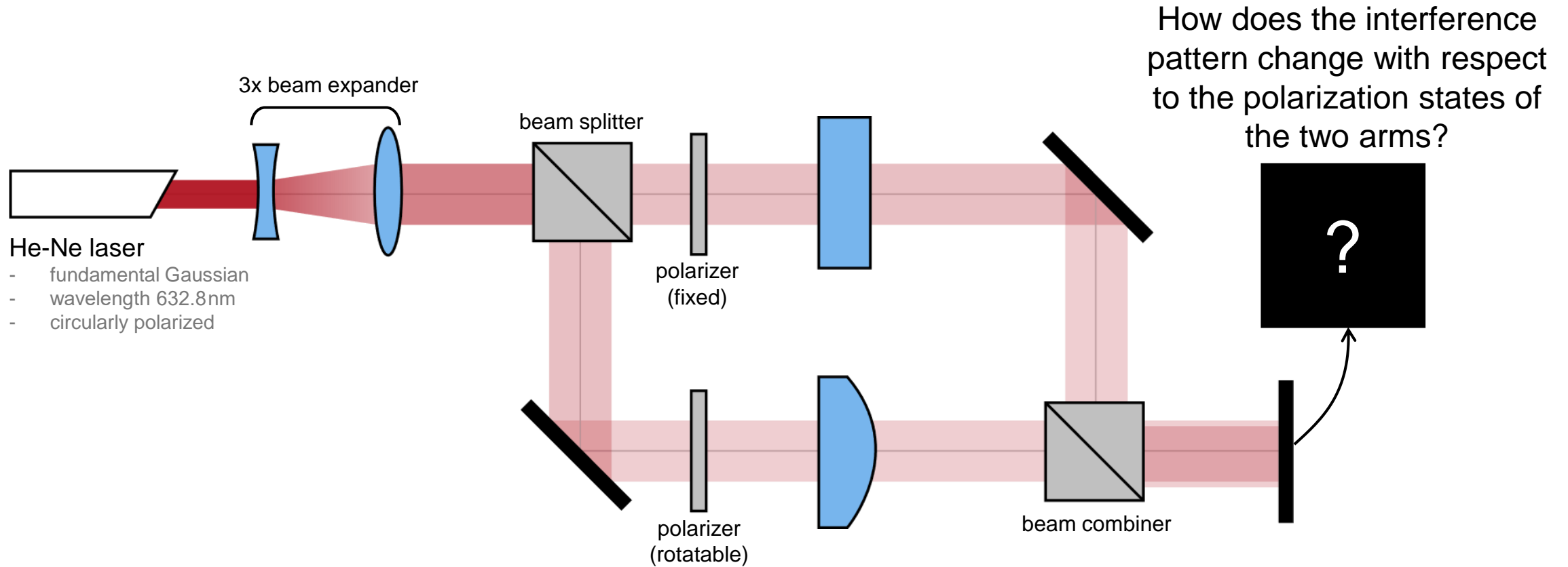
Generation of Spatially Varying Polarization by Interference with Polarized Light

Abstract

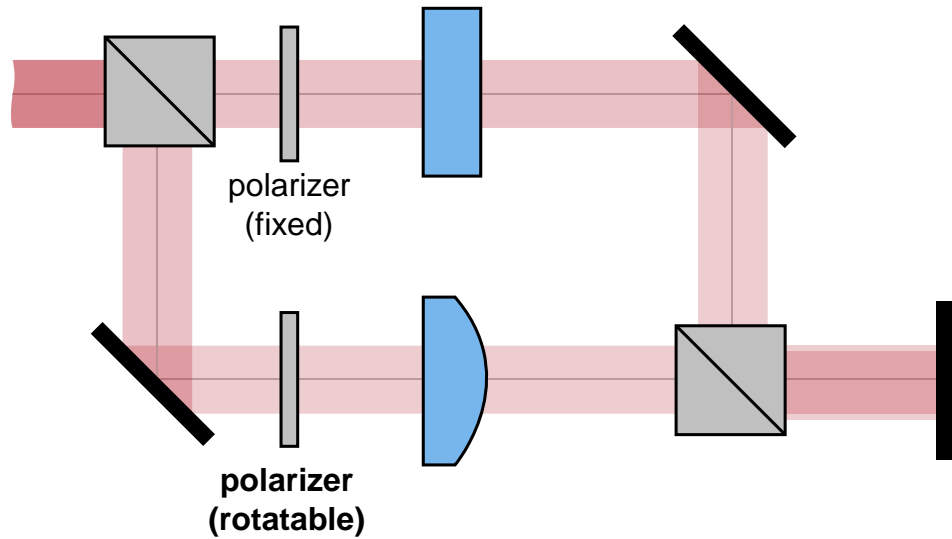


Interferometry is an important technique for optical metrology. As an example, a Mach-Zehnder interferometer with coherent laser source is build up in VirtualLab Fusion. Particularly in this example, two polarizers are inserted to control the polarization states of the two interfering beams. By rotating one polarizer, the changes in the interference pattern is visualized, and as a result, spatially varying polarization is generated.

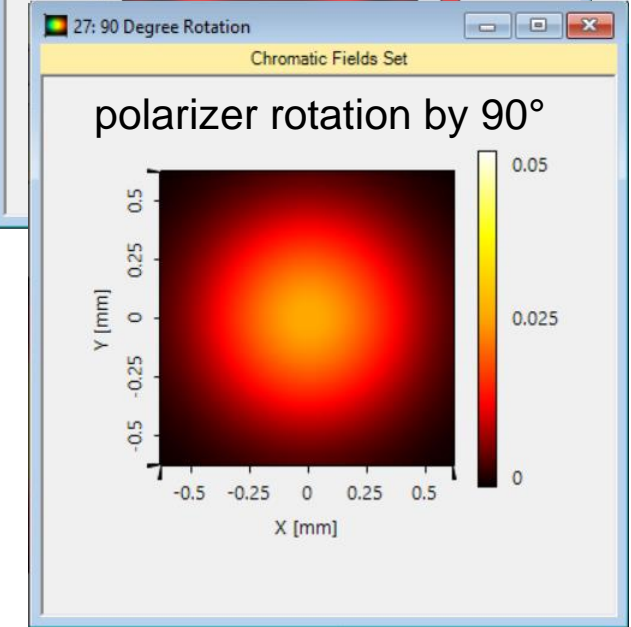
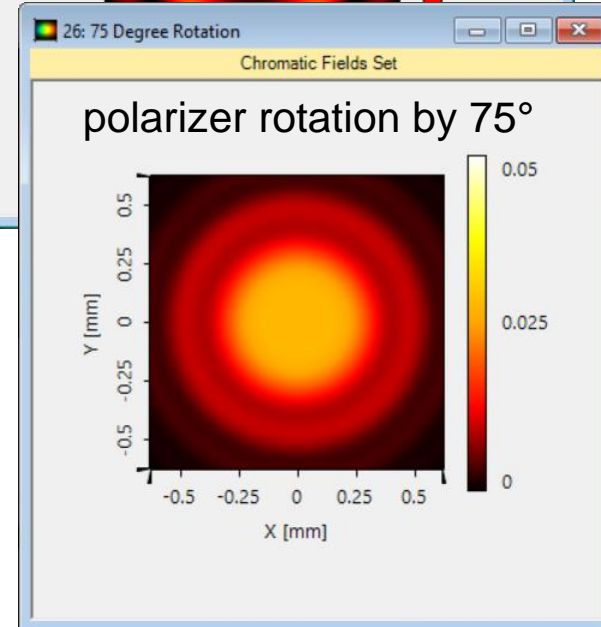
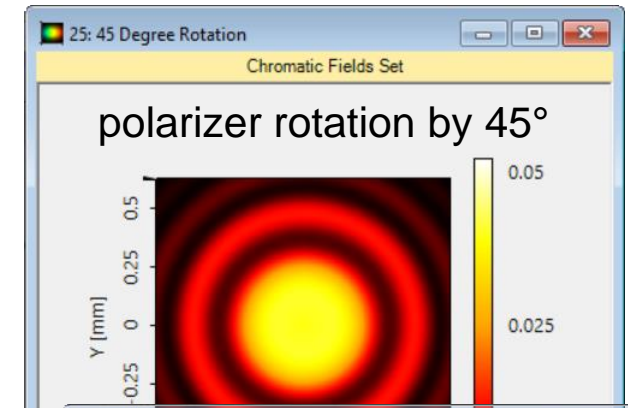
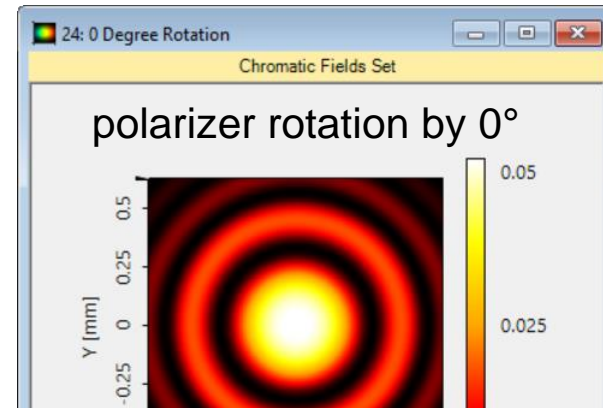
Modeling Task



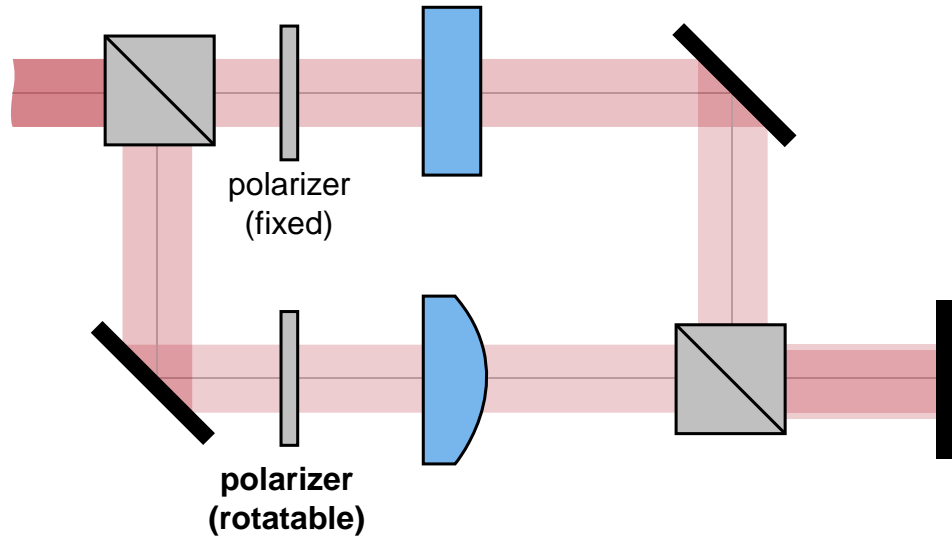
Interference Pattern Changes with Polarizer Rotation



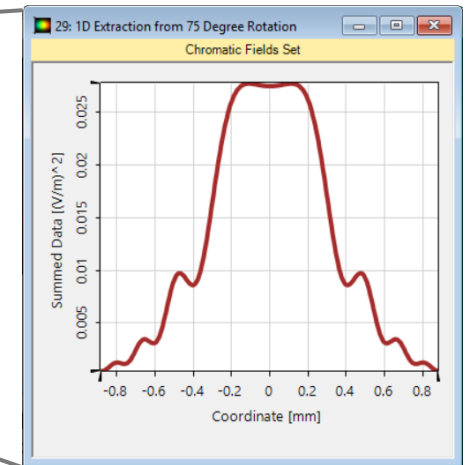
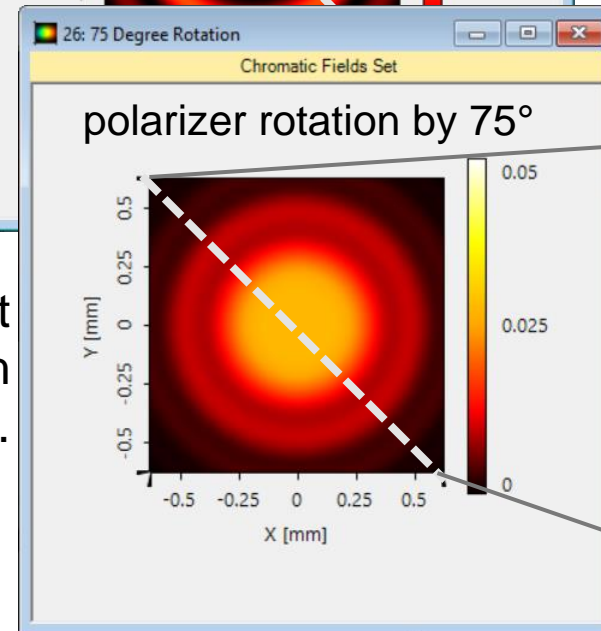
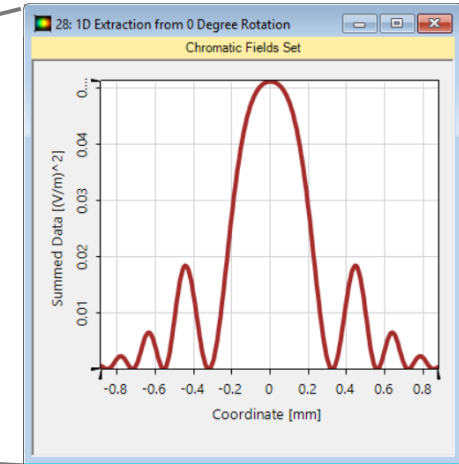
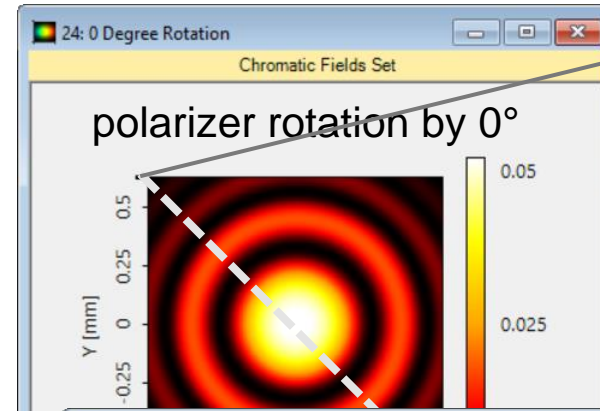
Interference fringes start to disappear, when polarizer rotates from parallel to orthogonal orientation.



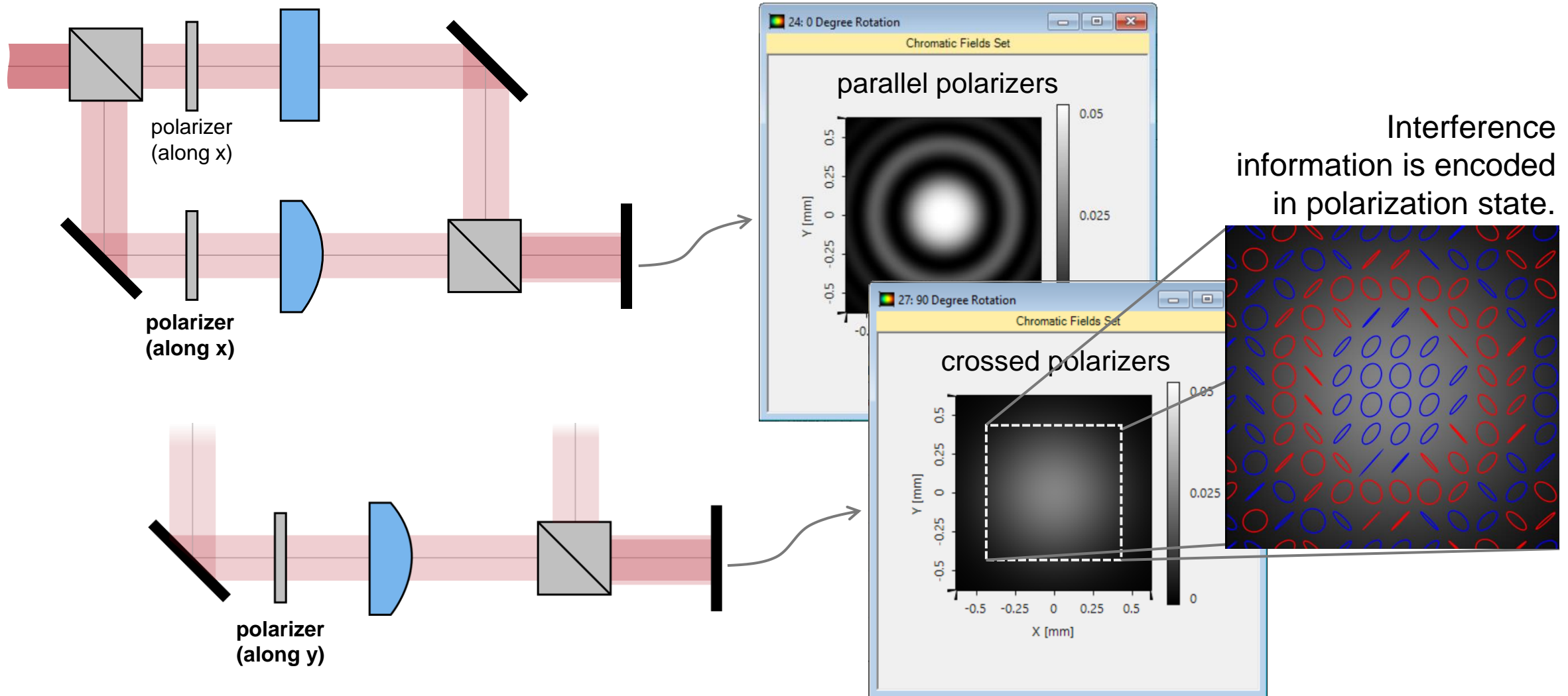
Interference Pattern Changes with Polarizer Rotation



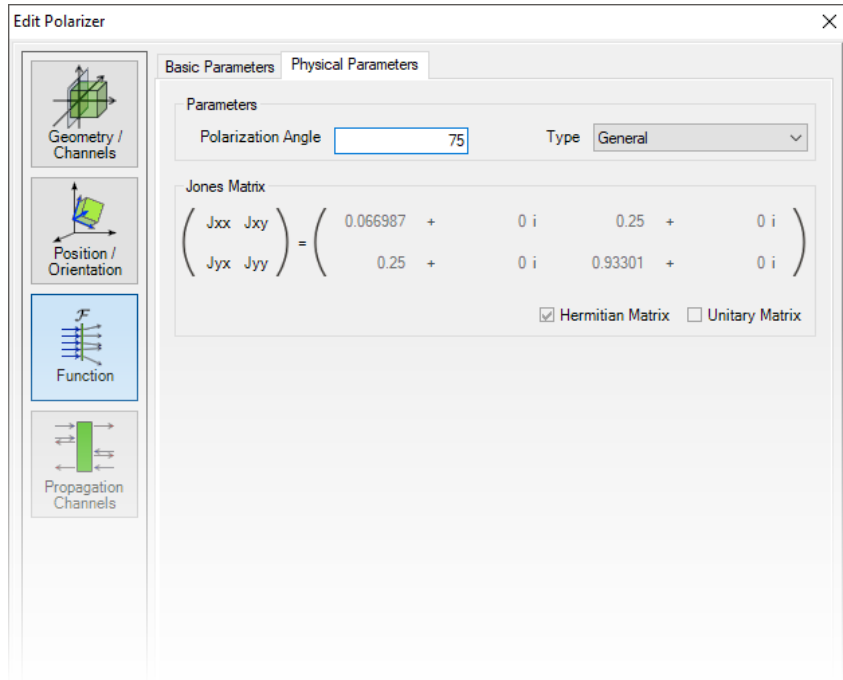
Fringe contrast changes with polarizer rotation.



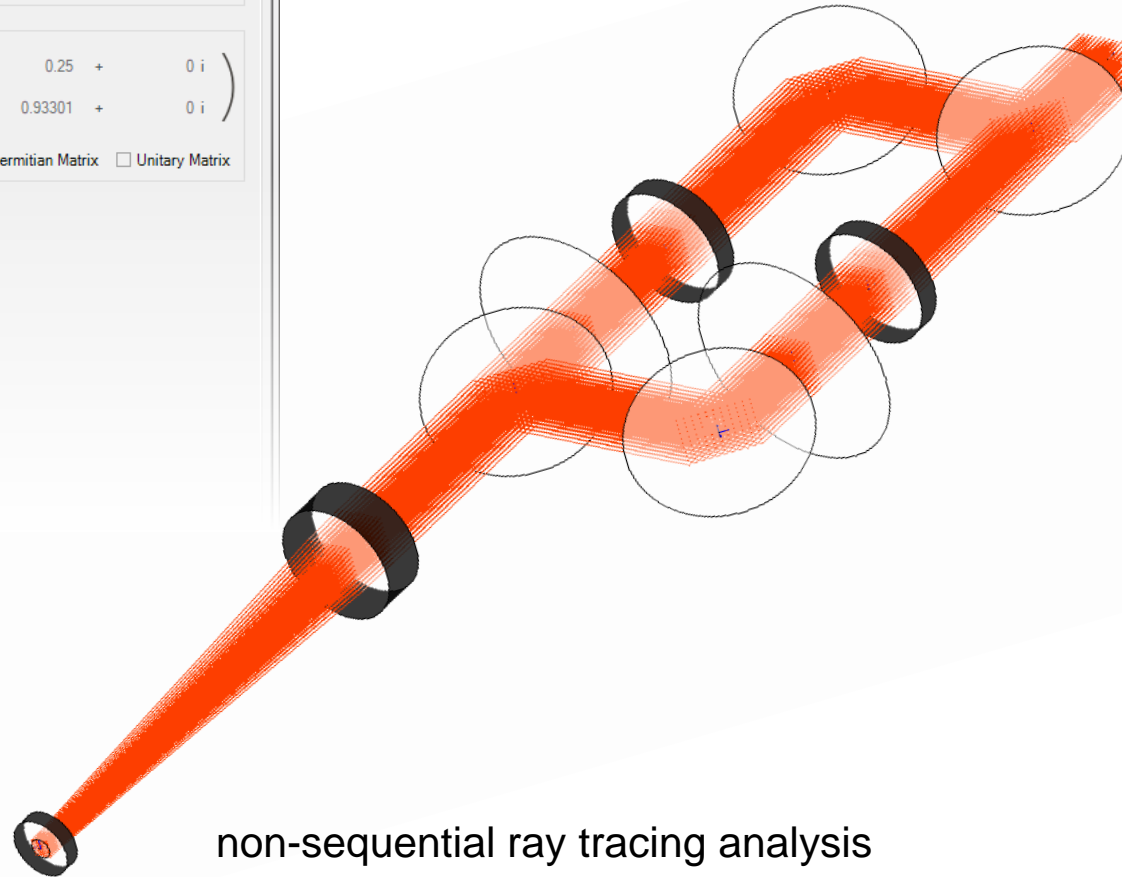
Interference Pattern



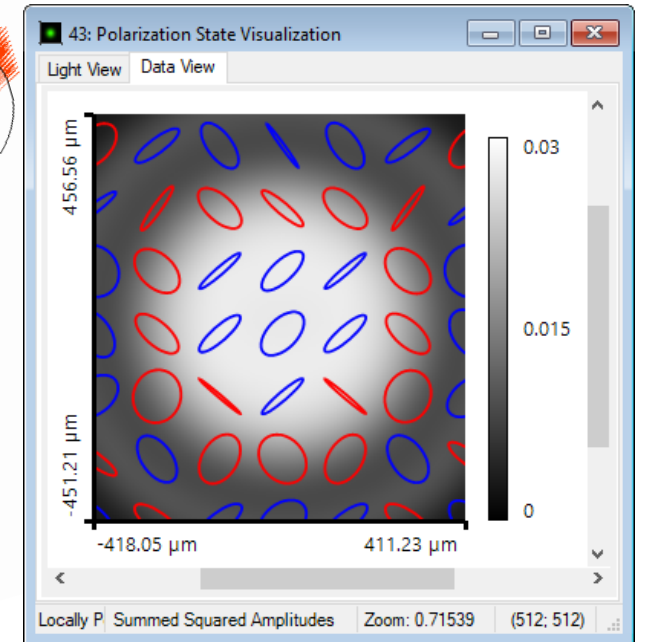
Peek into VirtualLab Fusion



setting of polarization angle



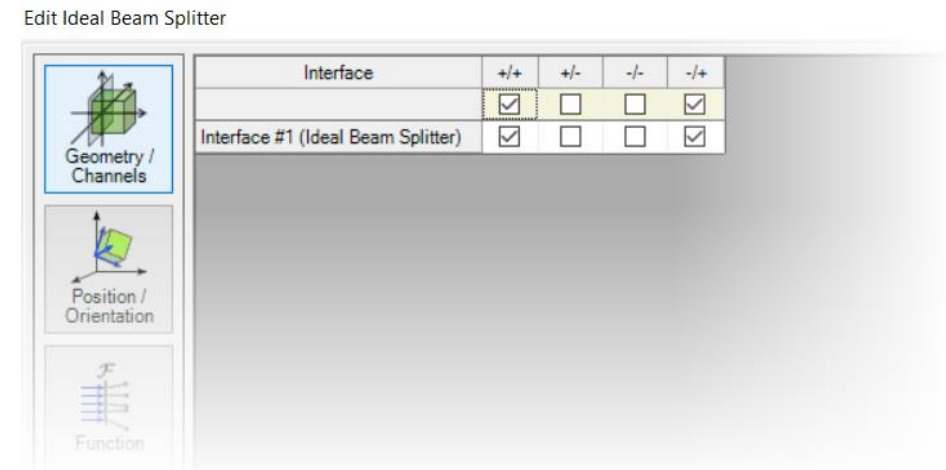
non-sequential ray tracing analysis



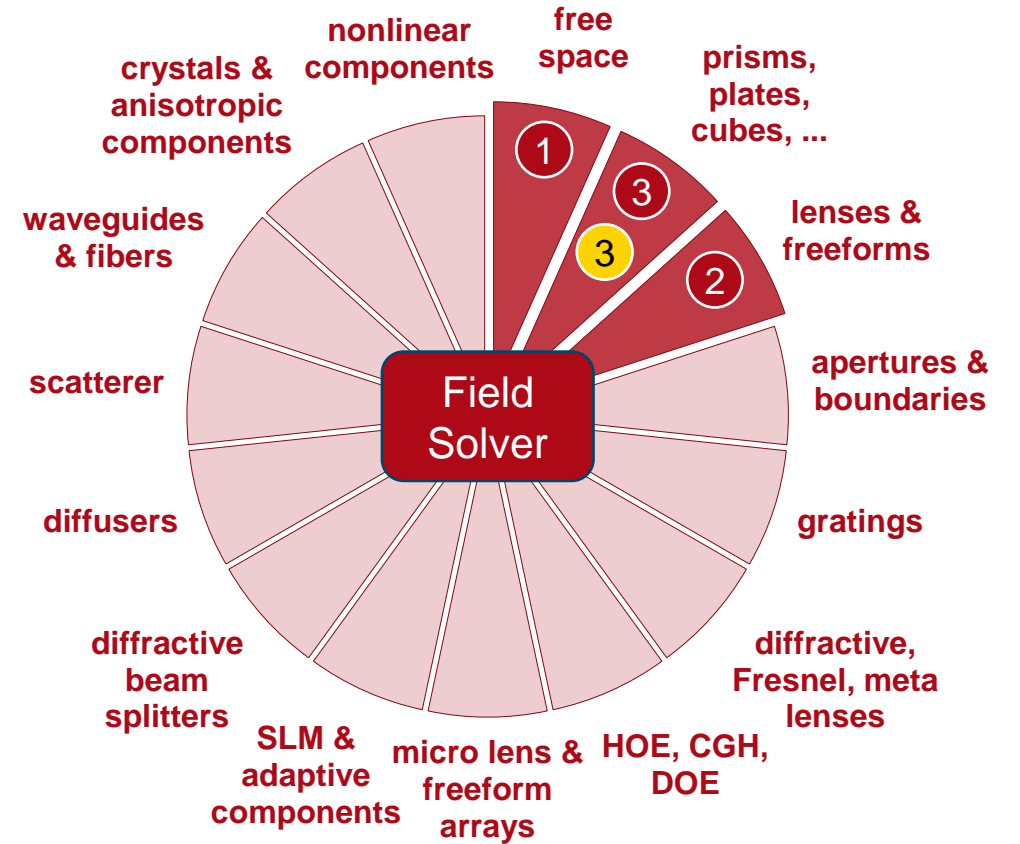
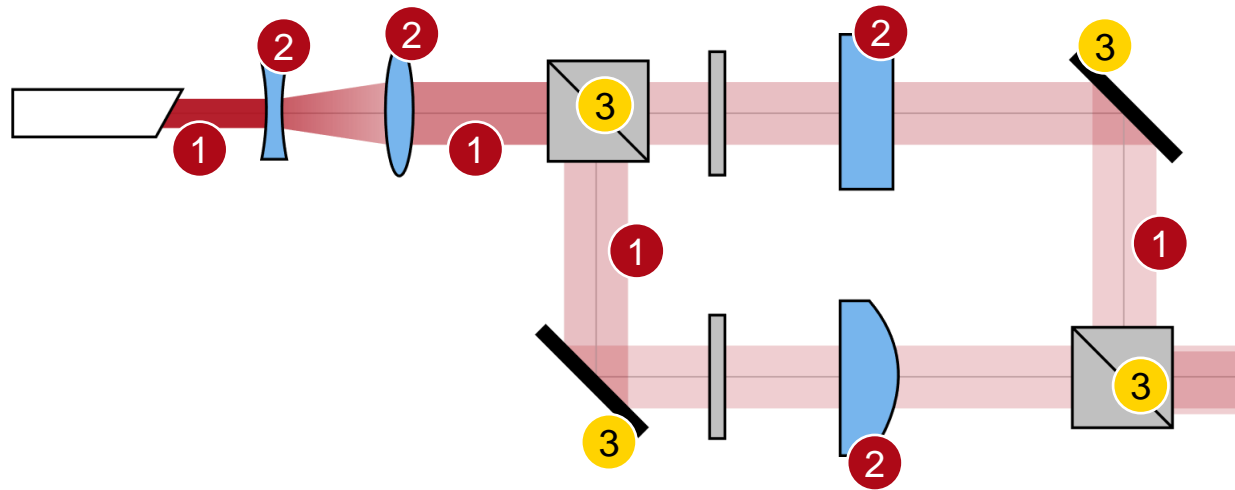
visualization of polarization state

Workflow in VirtualLab Fusion

- Set up input Gaussian field
 - [Basic Source Models](#) [Tutorial Video]
- Set the position and orientation of components
 - [LPD II: Position and Orientation](#) [Tutorial Video]
- Configure the surface channels of components
 - [Channel Configuration for Surfaces and Grating Regions](#) [Use Case]



VirtualLab Fusion Technologies



idealized component

Document Information

title	Generation of Spatially Varying Polarization by Interference with Polarized Light
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software version	2020.2 (Build 1.116)
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further reading	<ul style="list-style-type: none">- Mach-Zehnder Interferometer- Laser-Based Michelson Interferometer and Interference Fringe Exploration