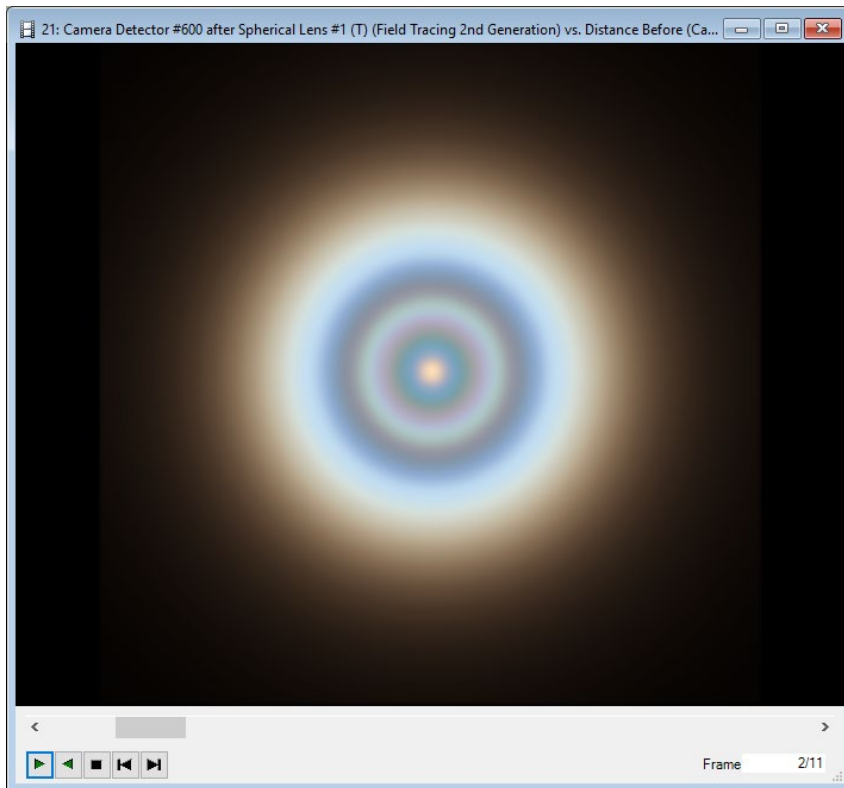


# **Animation Generation from Chromatic Fields Sets in Parameter Run**

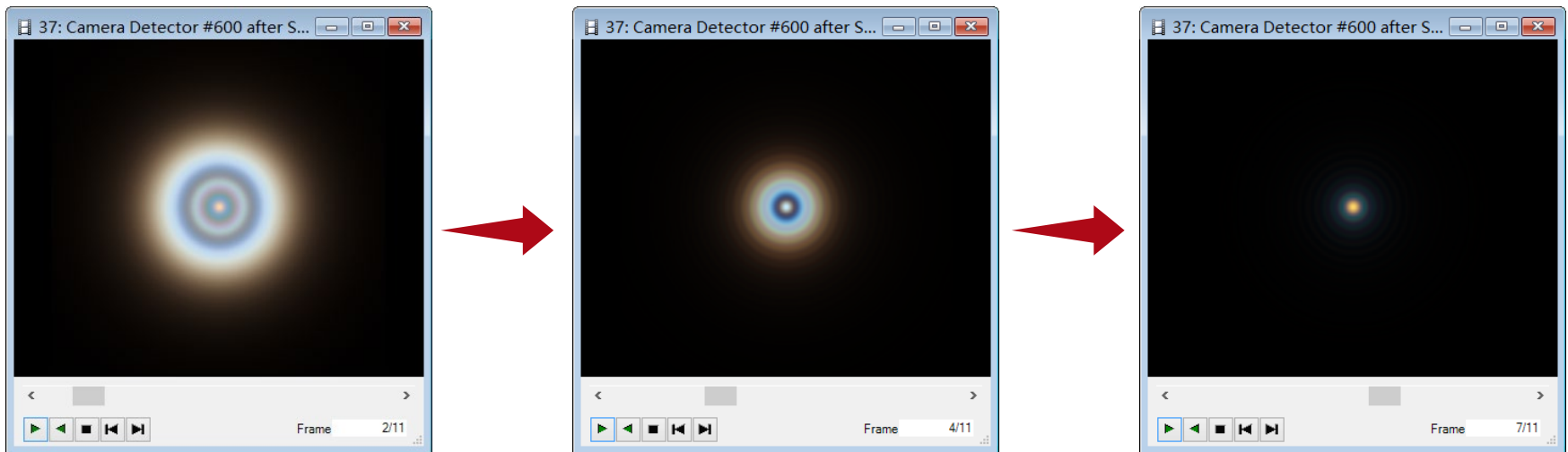
# Abstract



The parameter run can be used to perform a parameter series analysis of an optical setup. A very typical detector within VirtualLab Fusion is the camera detector which generates a chromatic fields set, showing the energy density distribution in the detector plane in real and false color view. This use case demonstrates how easy it is to convert a set of chromatic fields sets into an animation to get a rough overview on the detector signal in form of a movie. Several output options will be discussed.

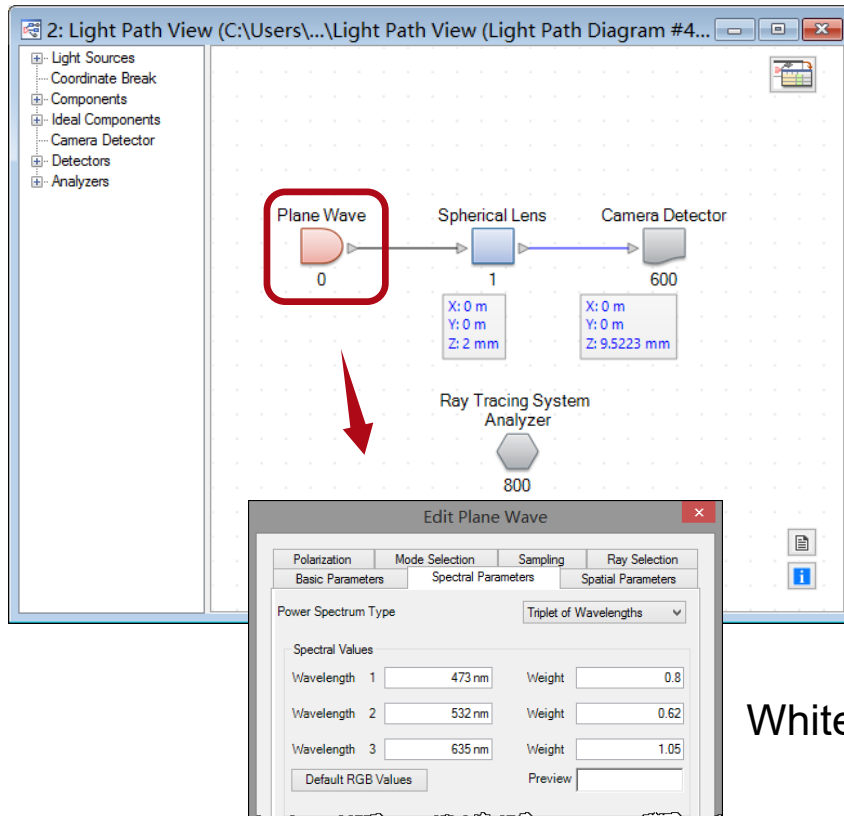
# Modelling Task

- Use *Parameter Run* to vary the position of the imaging plane behind a dispersive lens.
- Generate animation from *Chromatic Field Sets* results in *Parameter Run*.

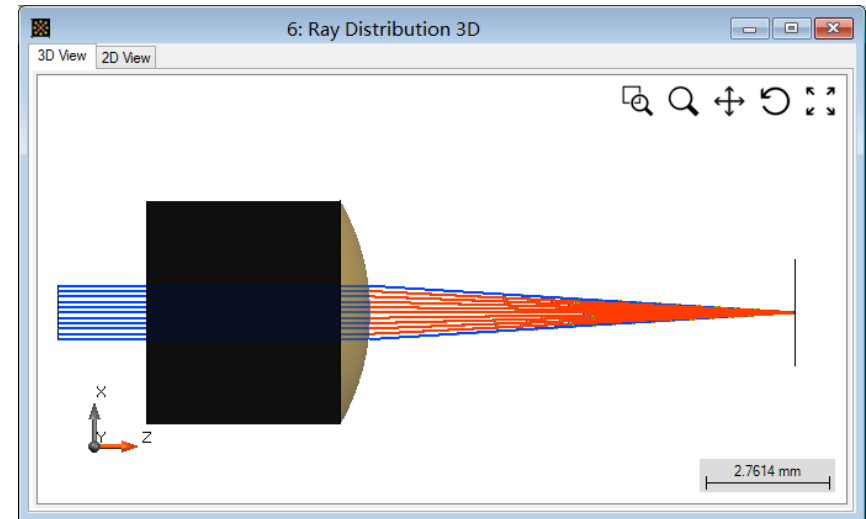


# Spherical Lens System

## Light Path Diagram



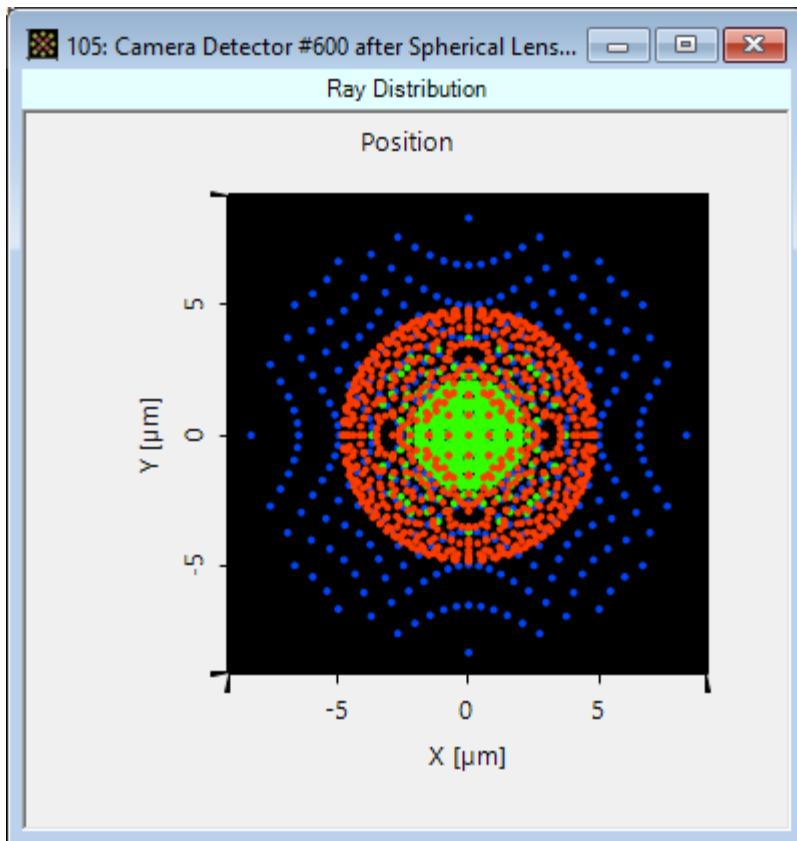
## Ray Tracing Analyzer Result



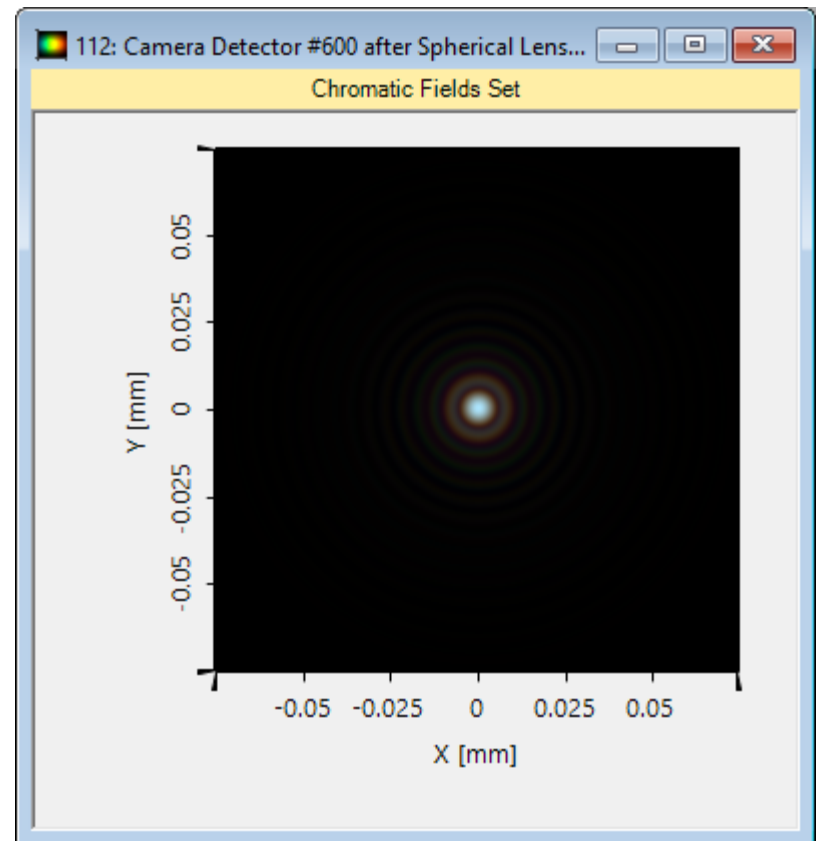
White light source: 3 wavelengths, chromatic field set

# Field at Focal Plane: Dispersion Effect

## Ray Tracing Result

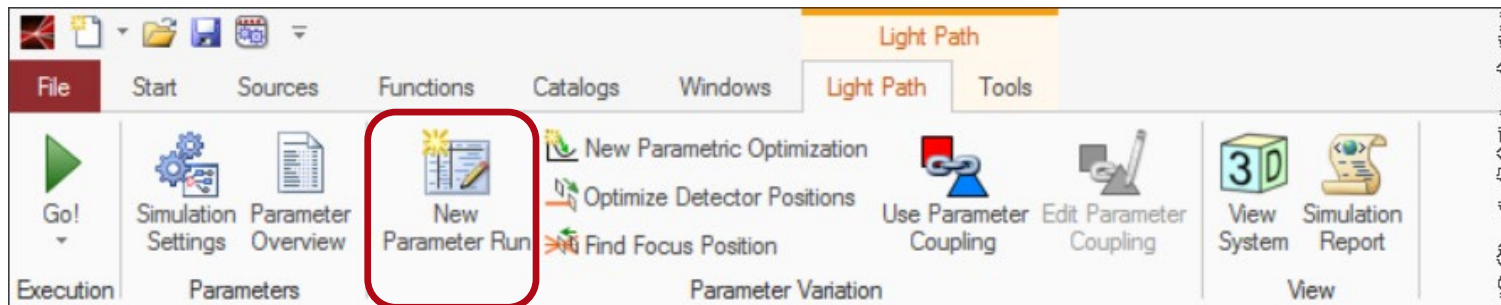


## 2<sup>nd</sup> Gen Field Tracing Result



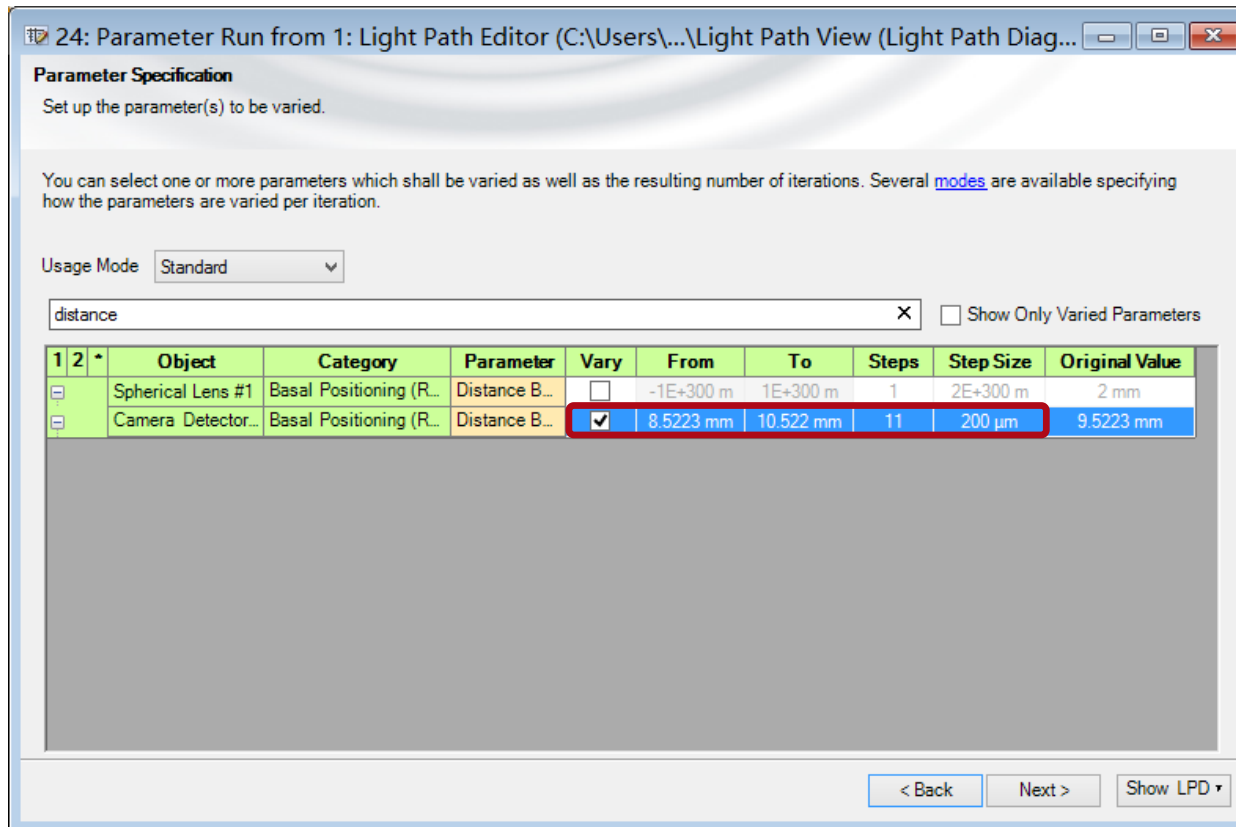
# Parameter Run

- The *Parameter Run* is used to vary parameters of an optical system automatically. With the help of *Parameter Run*, you can analyze the effects of those variations with different detectors.



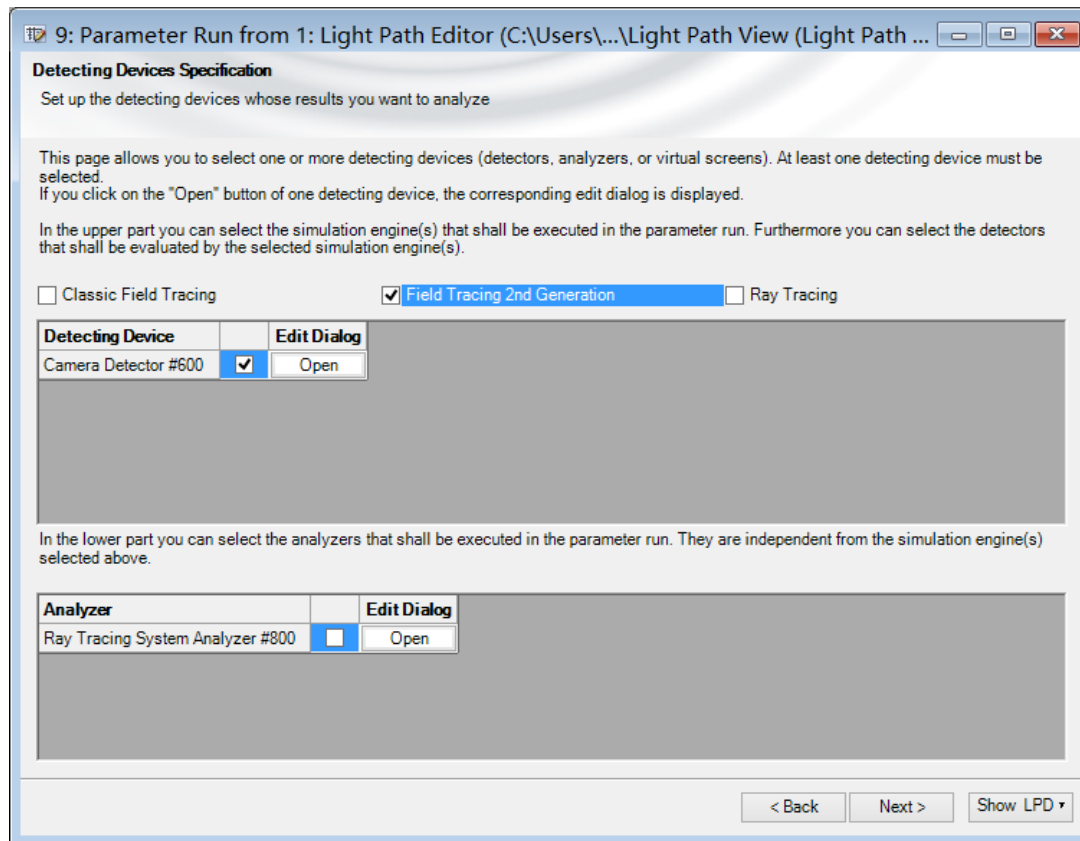
# Setting of Parameter Run

- Scan the distance behind the lens from 8.5223 mm to 10.5223 mm. Here the back focal length is 9.5223 mm.



# Setting of Parameter Run: Engine and Detector

- Select *Field Tracing 2<sup>nd</sup> Generation* and *Camera Detector*





# Parameter Run Result: Chromatic Field Sets

24: Parameter Run from 1: Light Path Editor (C:\Users\...\Light Path View (Light Path Diagram #48).lpd #1)\*

**Results**  
Start the parameter run and analyze its results

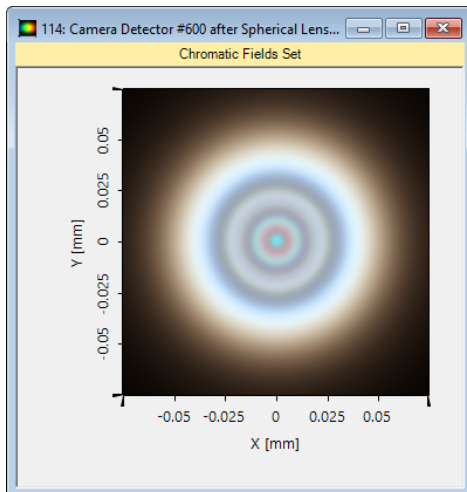
Go!

Use Cached Results for Next Run

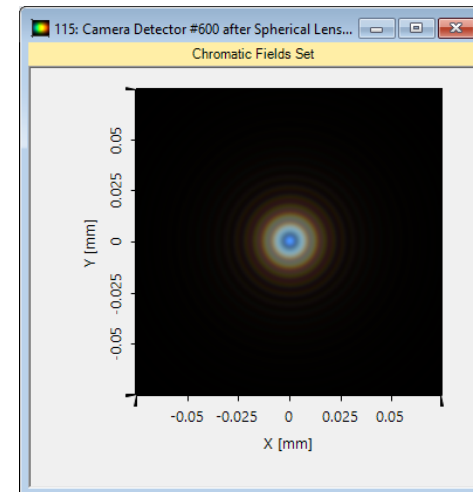
Detector	Subdetector	Combined Output	Iteration Step				
			1	2	3	4	5
Varied Parameters	Distance Before (Camera...	Data Array	8.5223 mm	8.7223 mm	8.9223 mm	9.1223 mm	9.3223 mm
Camera Detector #600 afte...		Animation	Chromatic Fields Set	Chromatic Fields Set	Chromatic Fields Set	Chromatic Fields Set	Chromatic Fields Set

Create Output from Selection

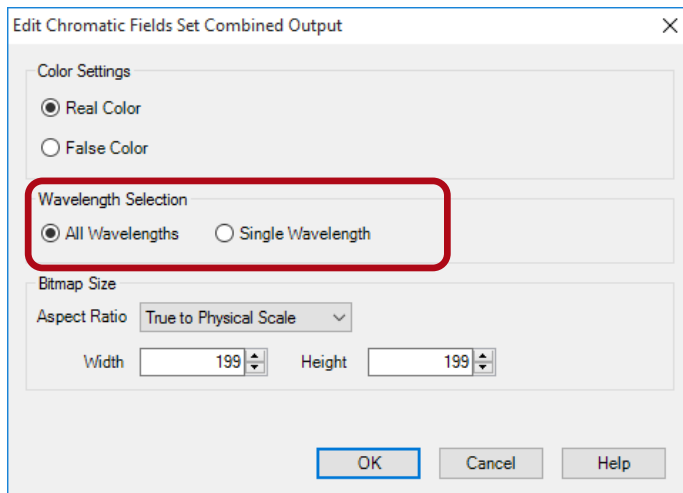
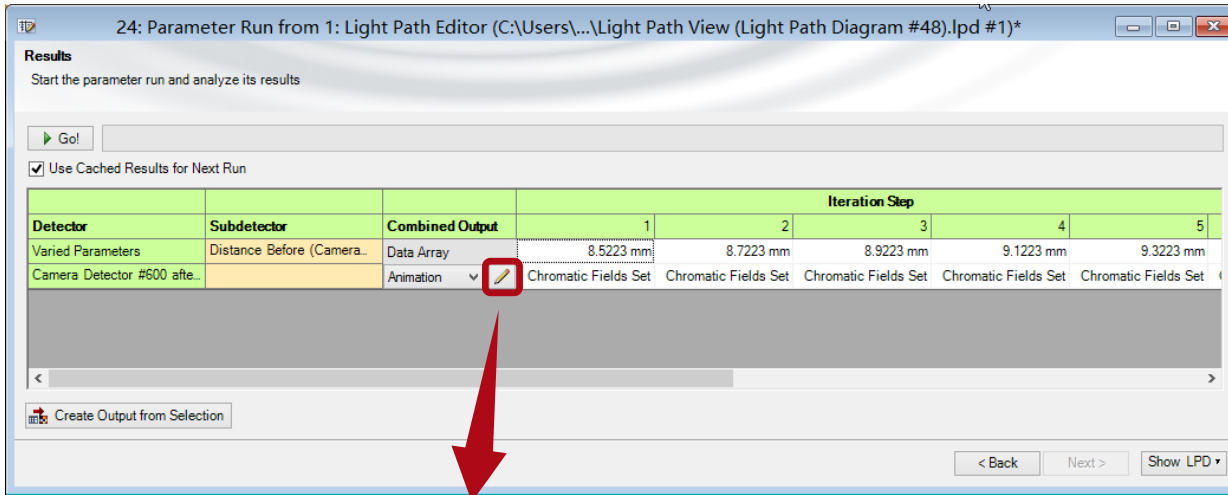
< Back Next > Show LPD ▾



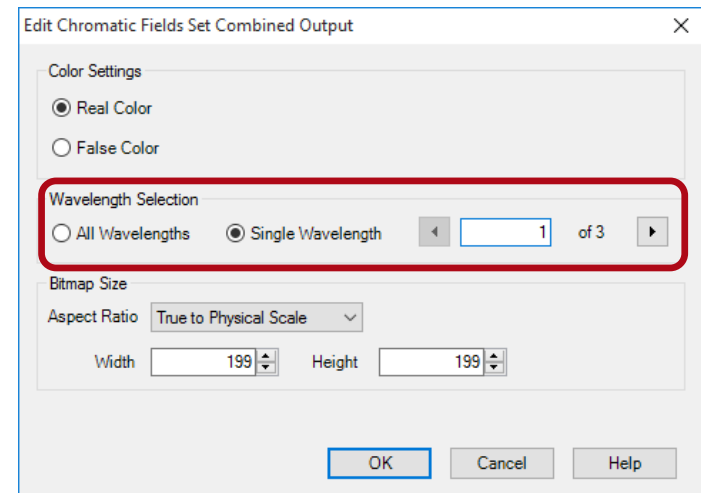
chromatic fields  
at different plane



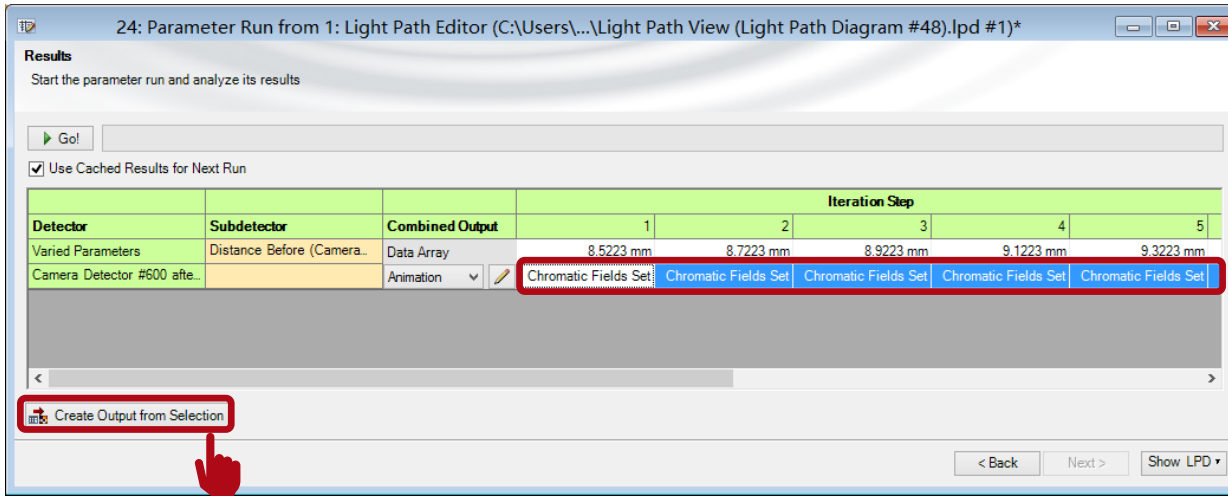
# Combination of Chromatic Field Sets



or



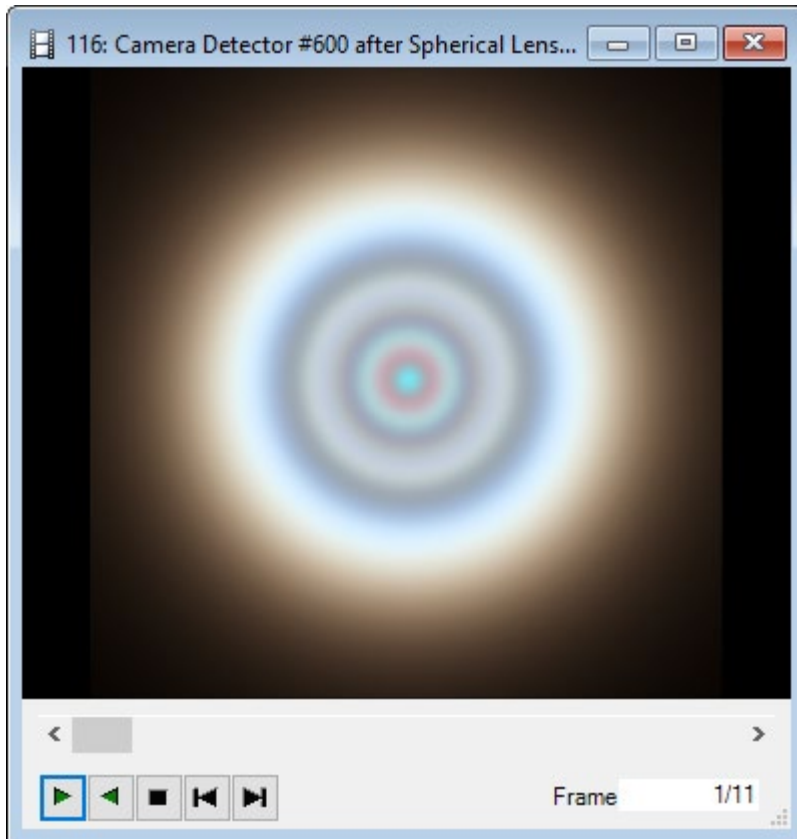
# Combination of Chromatic Field Sets



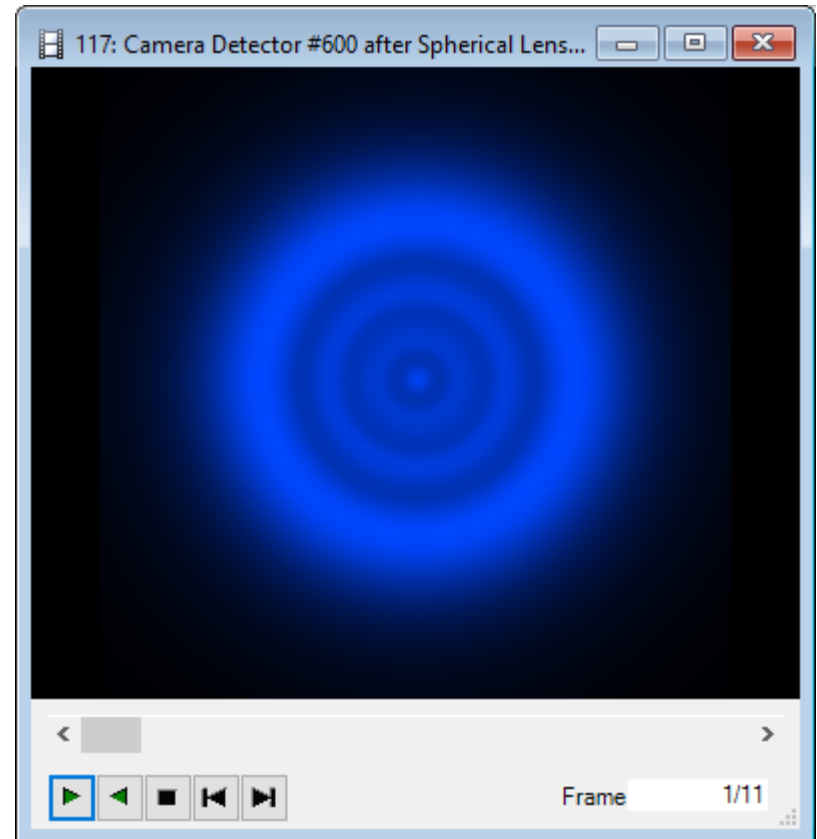
- Select all iteration result or part of them
- Choose *Animation* as combined output
- Click *Create Output from Selection*

# Animation Results

Combination of all wavelengths



Combination of single wavelength



# Document Information

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title	Animation Generation from Chromatic Fields Sets in Parameter Run
version	1.0
VL version used for simulations	7.0.3.4
category	Feature Use Case

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