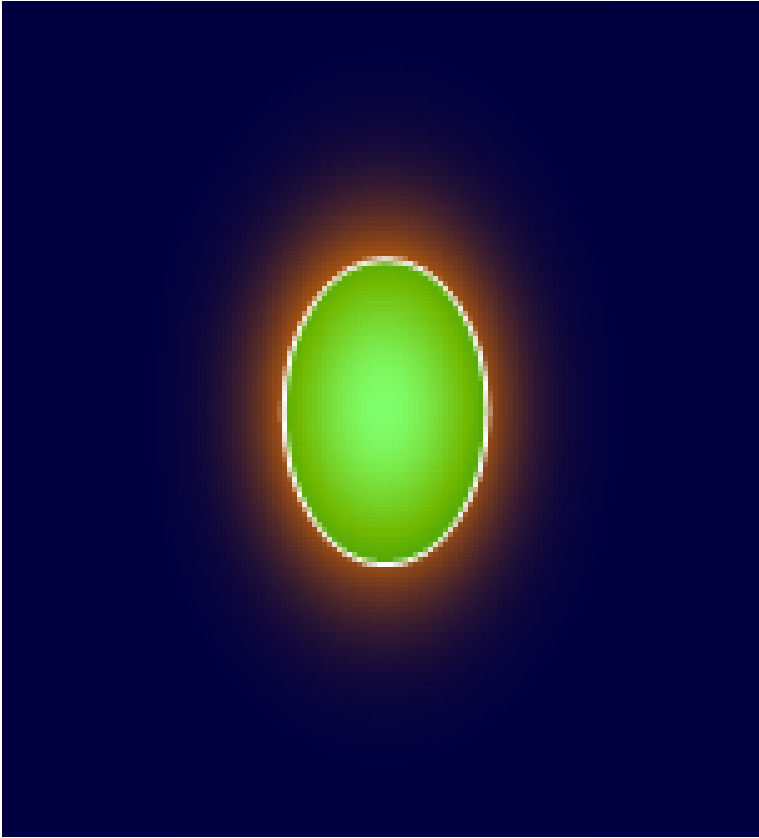


Add Region to Data Arrays

Abstract

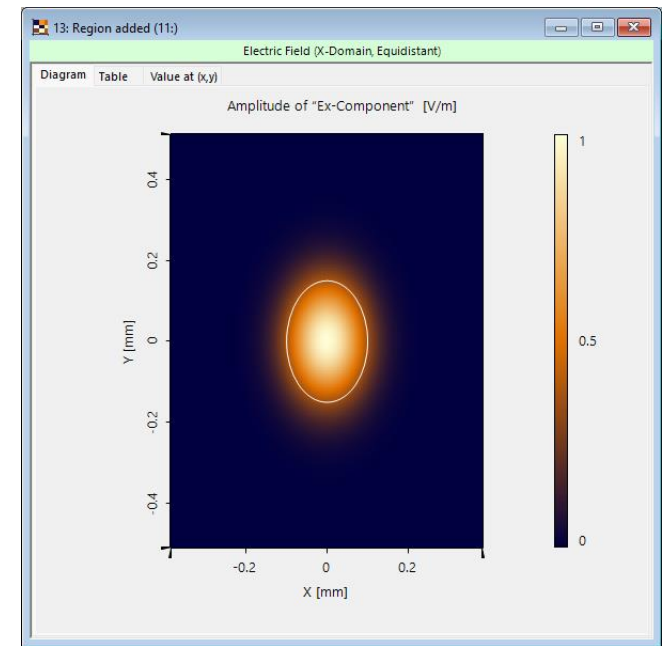
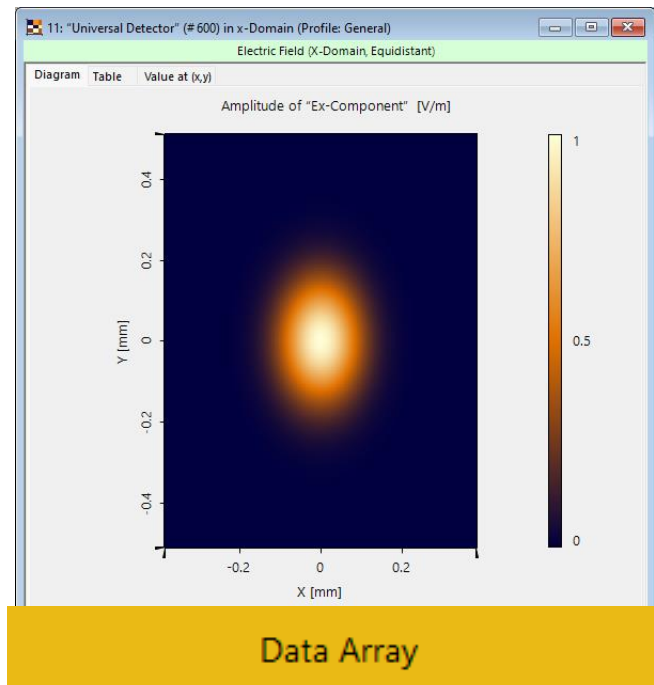
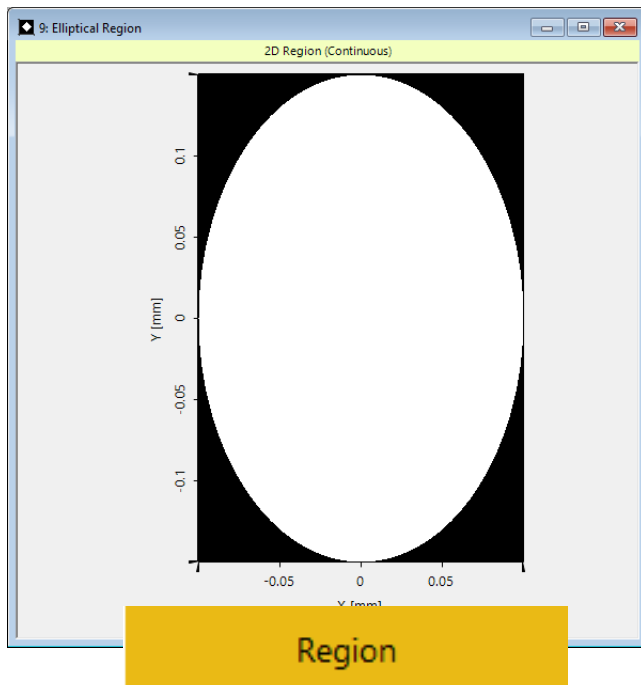


While the fast and accurate provision of simulation results is the main purpose of any optical simulation software, the ability to customize the visualization of the results should not be underestimated. Therefore, VirtualLab Fusion provides the user with a set of tools to help adding meaningful information to the raw numerical data. In this use case we want to put the spotlight on the Add Region tool, where a Data Array can be overlaid by one or multiple regions. As certain detectors also operate on regions, this tool can be used to give a direct visual feedback of this aspect of the configuration of the detector.

Add Region



Regions can have many uses in VirtualLab Fusion. One of the most common applications is to define a specific area in which, e.g., the radiant flux is measured. To visualize this properly, the tool *Add Region* generates an overlay of any *Region* document onto the field.



How to Add a Region to a Data Array

The screenshot shows the WYROWSKI VirtualLab Fusion 2022.1 (Build 1.538) interface. The 'Data Array' menu is active, and the 'Add Region' button in the 'Manipulations' toolbar is highlighted with a red circle and arrow labeled '2'. A red circle labeled '1' is around the 'Electric Field (X-Domain, Equidistant)' plot. A red circle labeled '3' is around the '1: Elliptical Region' entry in the 'Select 2D Region' dialog box. The 'Property Browser' on the right shows the settings for the selected region.

Property Browser

4: "Universal Detector" (#600...)

View Object Selections

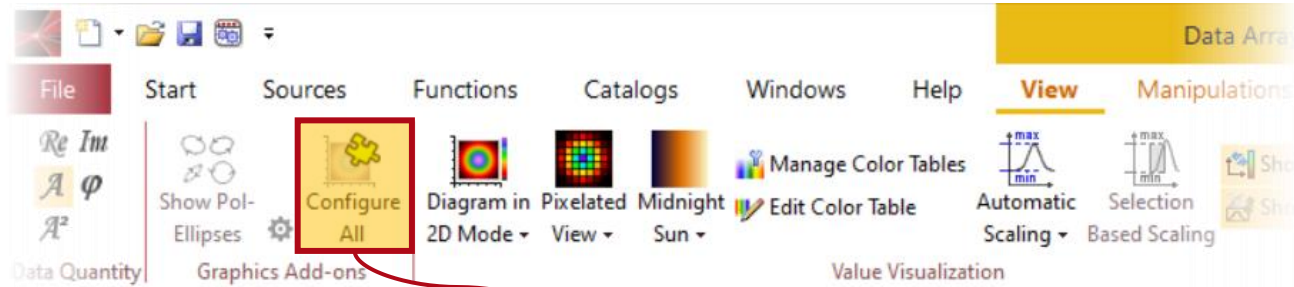
- General
 - Window Siz: 400, 420
 - True To Sca: True
 - Data Restri: True
 - Zoom Fact: 202.96
 - Zoom Fact: 1 px / [1 mm]
- Colors
 - Color Table: Midnight
- Data
 - Auto Scalin: True
 - Displayed I: [0 V/m; 1 V/m]
 - Field Quant: Amplitude
 - Format of C: Engineering
 - Subset Ind: 1
 - View Interp: Pixelated View
- Labels
 - Font Size o: 10
 - Font Size o: 10
- Selection (General)
 - Selection N: Rectangle or El
- Selection (Line)
 - Display Lim: False
- Selection (Point)
 - Display Poi: False
- Selection (Region)
 - Show Rect: False

Window Size

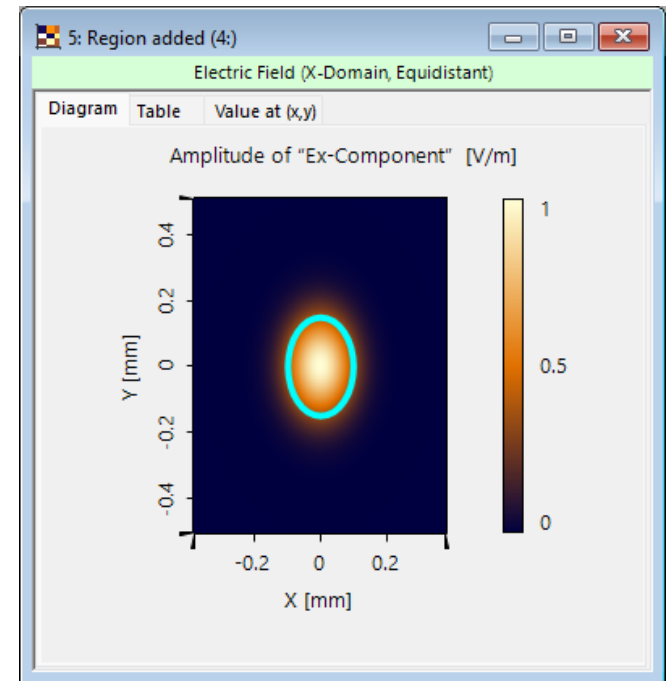
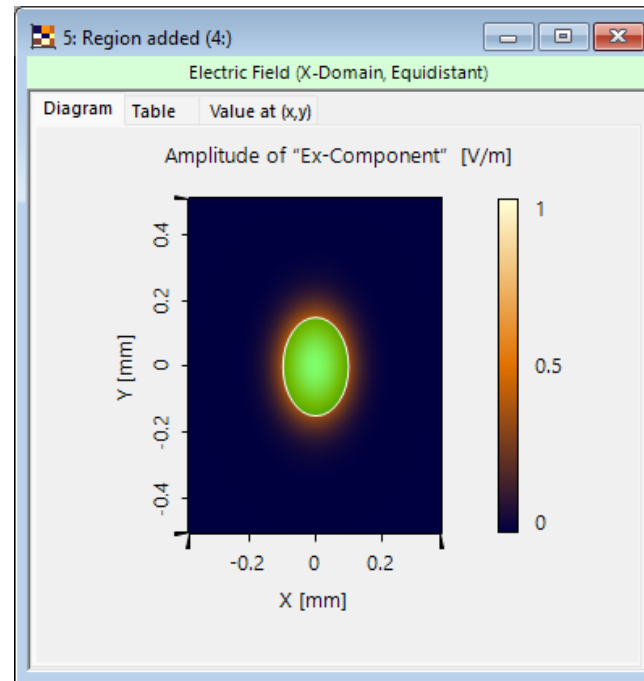
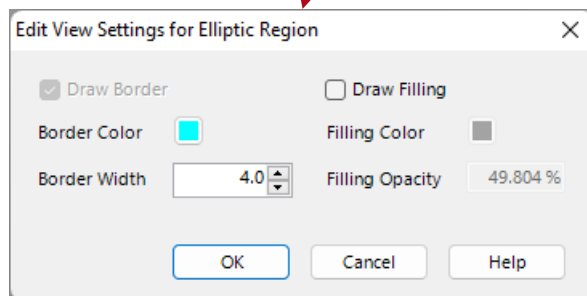
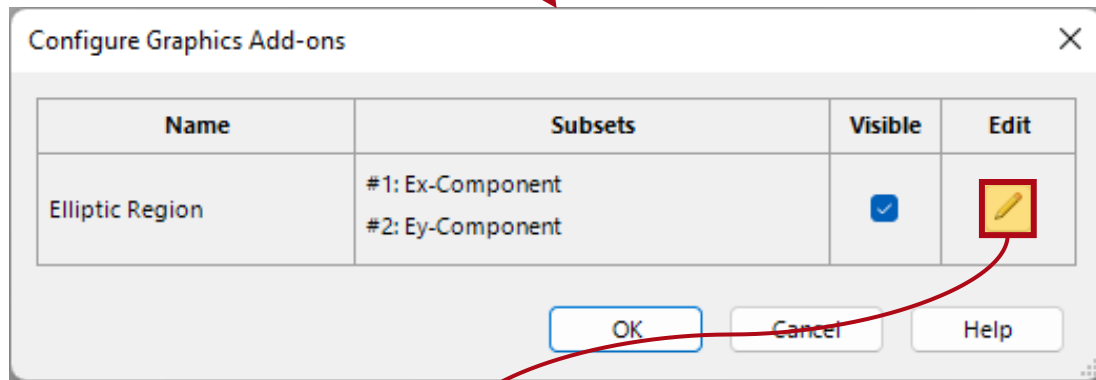
The size of the document window.

To add a region to a *Data Array*, first select the *Data Array* in question. Then, under the tab *Manipulations*, the tool *Add Region* should appear. After clicking on that button, a pop-up appears listing all open region documents.

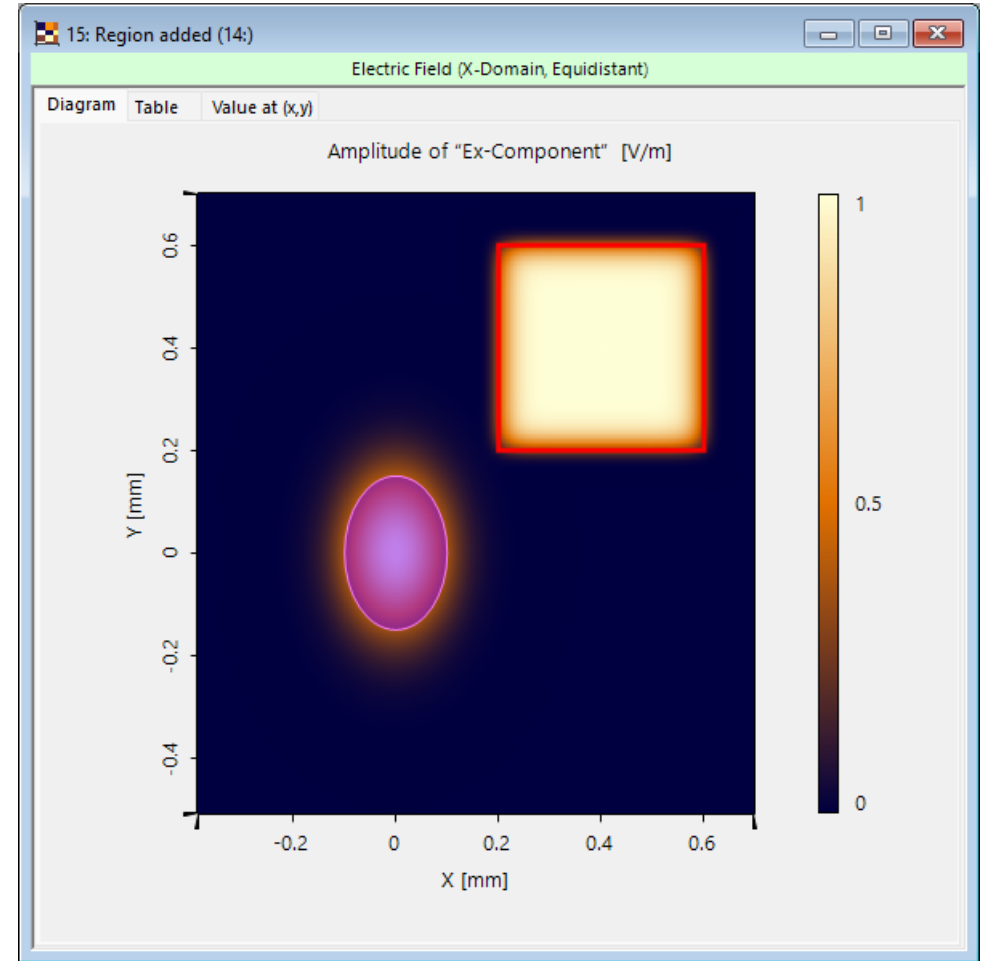
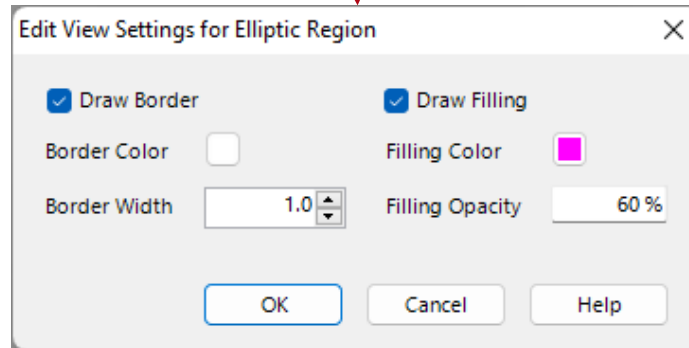
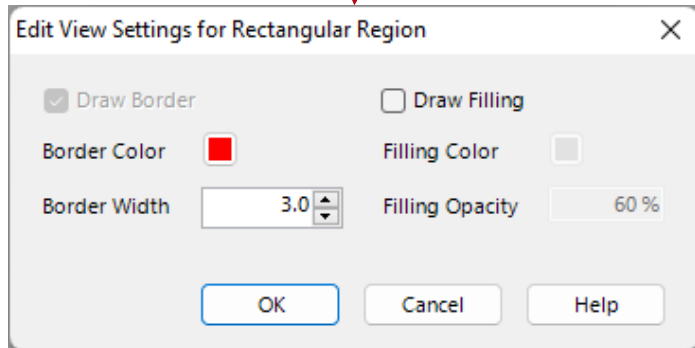
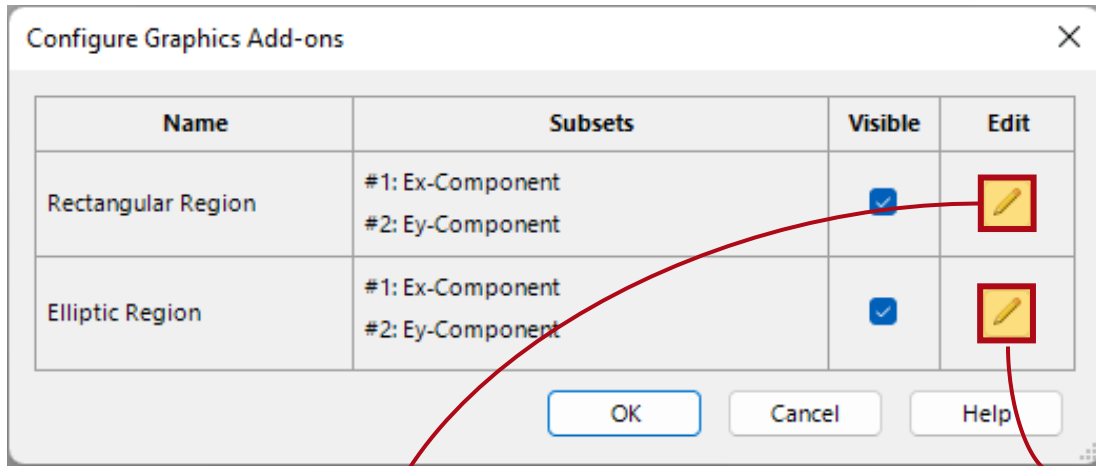
Visualization Options



For *Regions*, the visualization options include color and thickness of the border as well as a toggle to fill the region with a (possibly transparent) color.



Visualization Options – Multiple Regions



If multiple Regions are added to the Data Array, they can be customized individually.

Document Information

title	Add Region to Data Arrays
document code	SWF.0029
document version	1.0
software edition	VirtualLab Fusion Basic
software version	2022.1 (Build 1.554)
category	Feature Use Case
further reading	<ul style="list-style-type: none">• <u>Add Point Cloud to Data Array</u>• <u>Universal Detector</u>