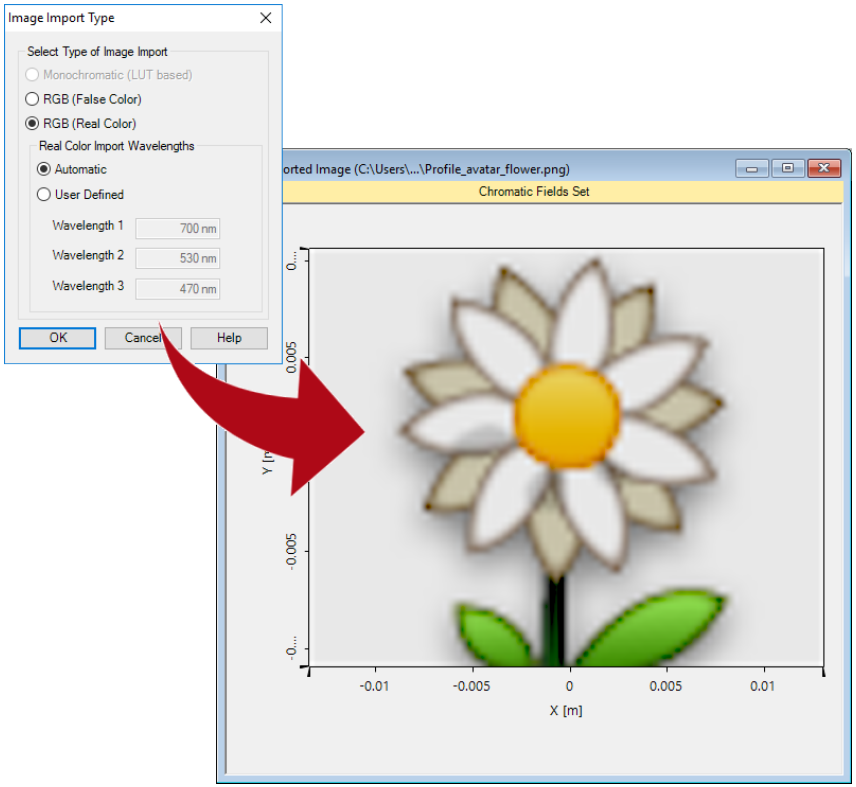
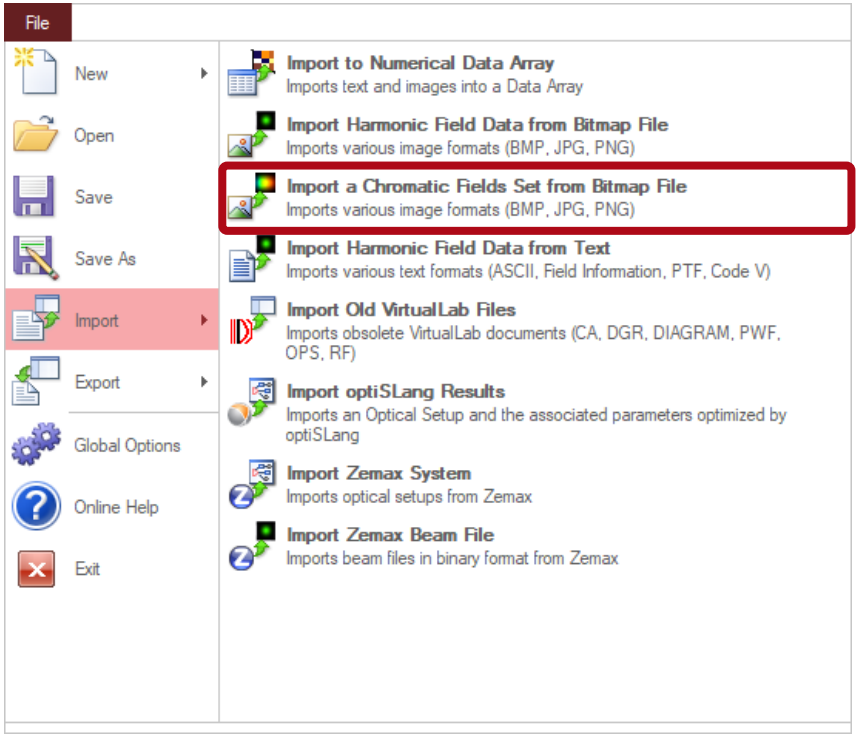
Import and Export of Chromatic Fields Sets

Abstract



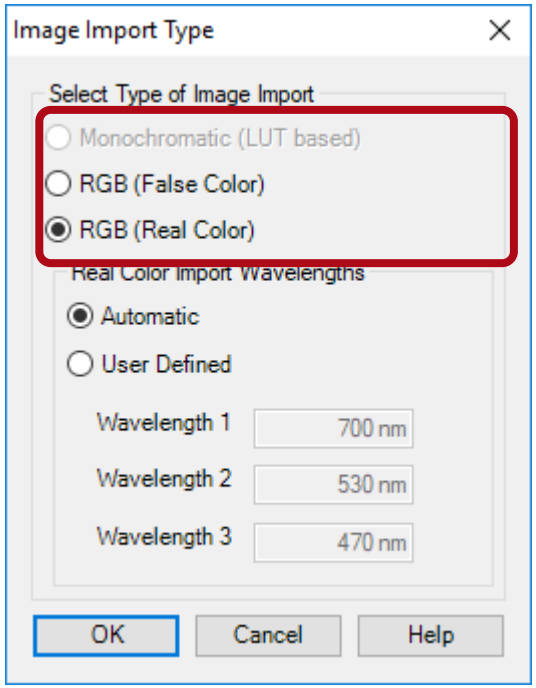
The standard detector within optical setups in VirtualLab Fusion is the camera detector. This detector calculate the energy density distribution and shows the calculated distribution by a chromatic fields set. For further processing it might be important to export this information to a text-based format. In addition chromatic fields sets can be used to specify the pixel distribution of the panel type source. Therefor it is also necessary to have an import option of bitmaps into a chromatic fields set. This use case demonstrates the options for import and export chromatic fields sets.

Import Chromatic Fields Set From Bitmap



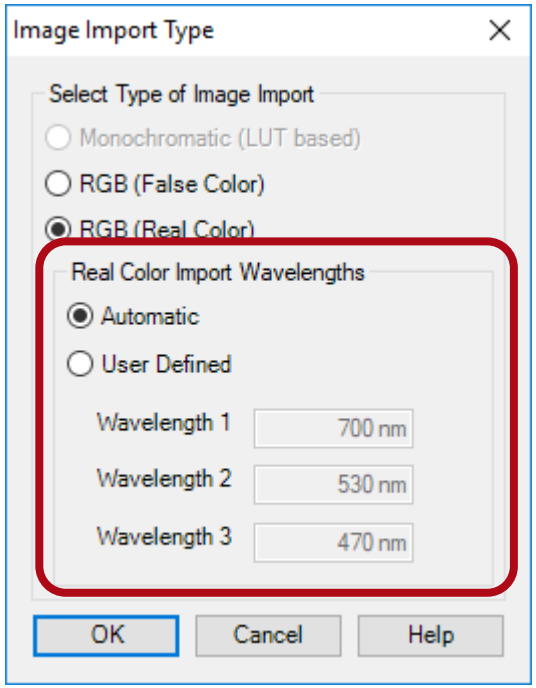
- The import section in the file menu of VirtualLab Fusion provides an option to import a chromatic fields set from a bitmap file.
- The file can be given as *.bmp, *.jpg or *.png file.
- By clicking on the corresponding import button the user is asked to select a file from hard disc.

Import Chromatic Fields Set From Bitmap



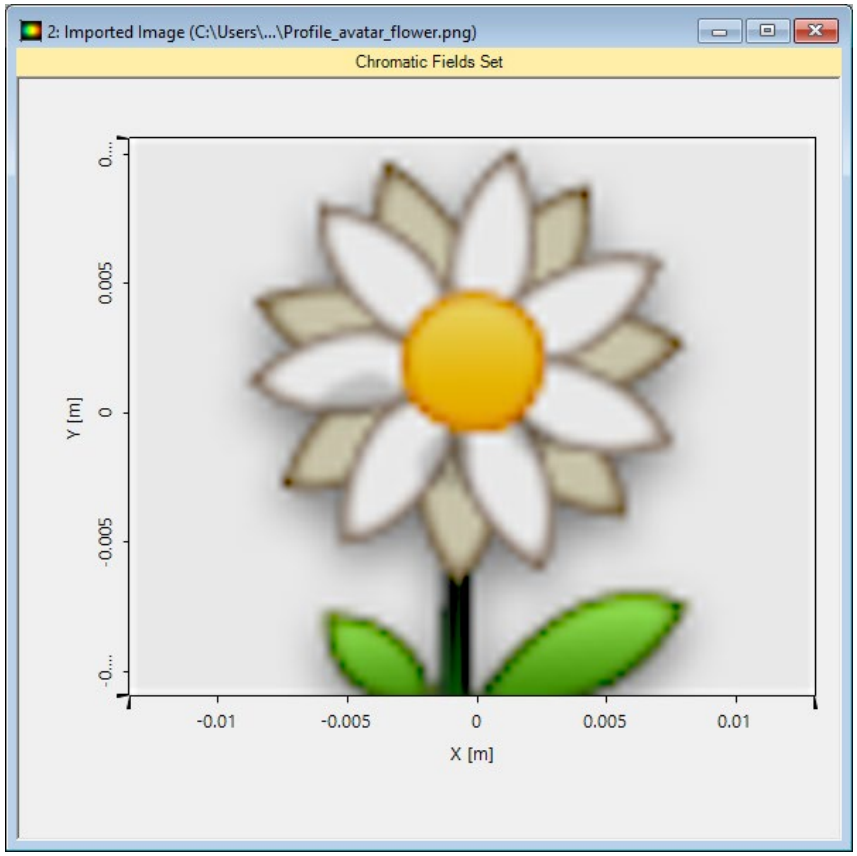
- After selecting the bitmap on your hard drive an additional dialog is shown to configure the import.
- Depending on the selected file the user can choose between monochromatic or RGB import.
- For RGB he can select whether to use a real color or a false color import.

Import Chromatic Fields Set From Bitmap



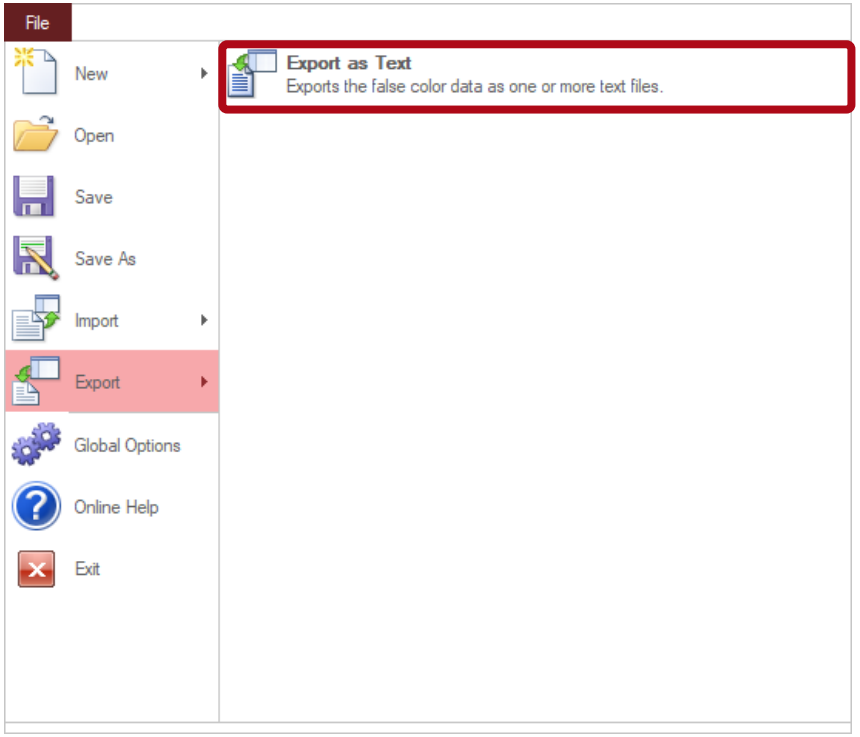
- In case of real color import the use can define which wavelength shall be used for the R, G and B information within the bitmap.
- This selection can be done by a suggestion of VirtualLab Fusion or manually.
- In case of false color import the user can also define custom weights that shall be used per wavelength.

Import Chromatic Fields Set From Bitmap



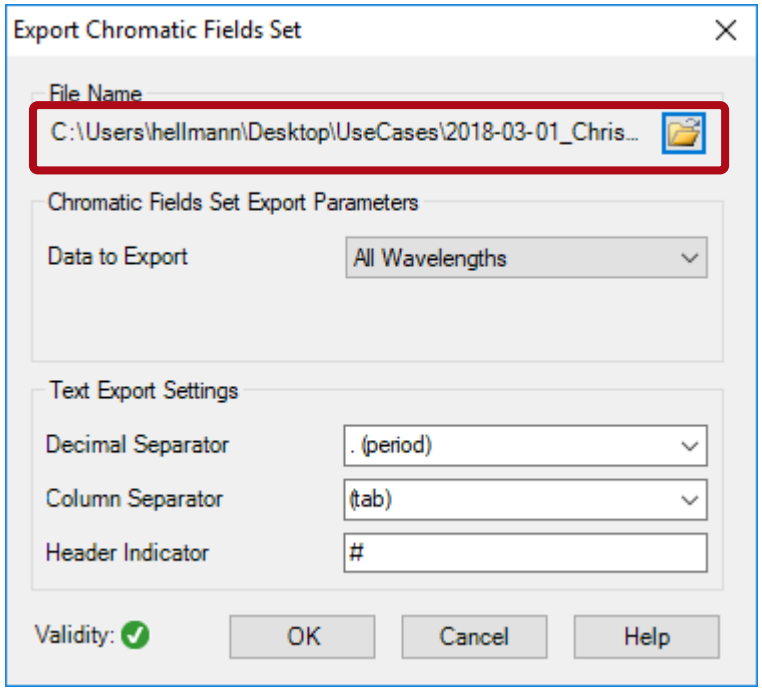
- The screenshot in the left side shows the imported chromatic fields set of a sample *.png file which is included in the sample files of this use case.
- For this import the default settings were used.

Export of a Chromatic Fields Set



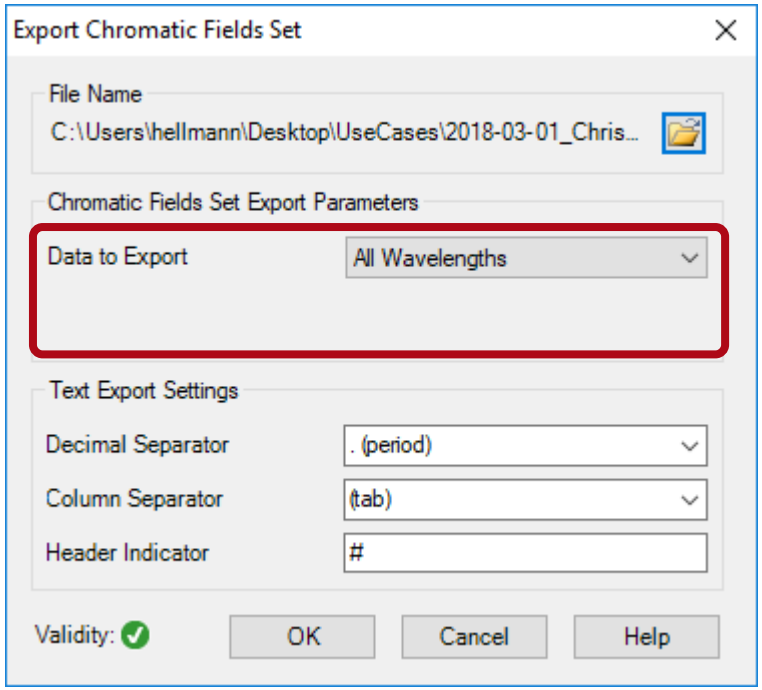
- If the user activates a chromatic fields set in the main window, he can find the *Export as Text* function in the export section of the file menu.
- In what follows we use the imported chromatic fields set and export it again as text.

Export of a Chromatic Fields Set



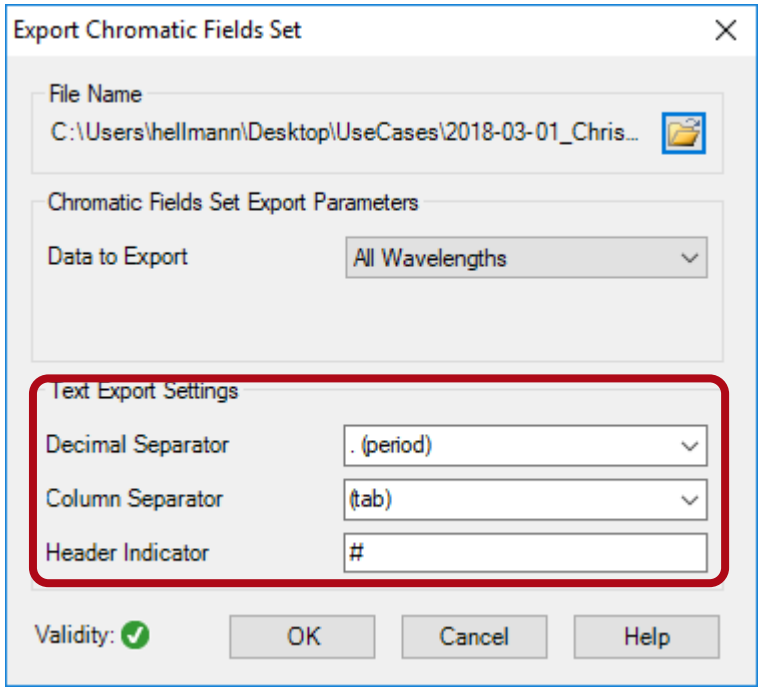
- After starting the export function a small dialog is shown which can be used to configure the export.
- The user can specify the path in which the files shall be generated.
- Note: Depending on the selected data to export more than one file might be generated.

Export of a Chromatic Fields Set



- The user can select which information shall be used for export.
- A chromatic fields set stores the intensity for one or more wavelengths.
- If more than one wavelengths are present, the user can select whether to generate a file for
  - each wavelength
  - one selected wavelength
  - the summation of all wavelength entries

Export of a Chromatic Fields Set



- Finally the user can specify some additional export parameters which influence the format within the text file.
- It is possible to define
  - Decimal separator for numbers
  - Column separator
  - Identification character for header information

Export of a Chromatic Fields Set

```
Exported ChromaticFieldsSet.fin
# Exported Chromatic Fields Set Data (generated by VirtualLab 7.3.0.41)
# Precision:     Double Precision
# Number of Data Points:     (76; 62)
# Data Meaning: Summed Data
# Data Property:     (Electric Field Strength)² [(V/m)^2]
# x-Coordinates:     Property: Length [m]        Coordinate of First Data Point: -0.013405555555555554       Sampling Distance: 0.00035277777777777776
# y-Coordinates:     Property: Length [m]        Coordinate of First Data Point: -0.010936111111111111       Sampling Distance: 0.00035277777777777776
# Wavelengths [m]:   {6.9999999999999997e-07, 5.3000000000000001e-07, 4.7e-07}
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313517887  180.94995313
```

- The screenshot on the top side of the slide shows the exported text file containing the summation of all subsets within the sample chromatic fields set.

Document Information

title	Import and Export of Chromatic Fields Sets
version	1.0
VL version used for simulations	7.3.0.41
category	Feature Use Case