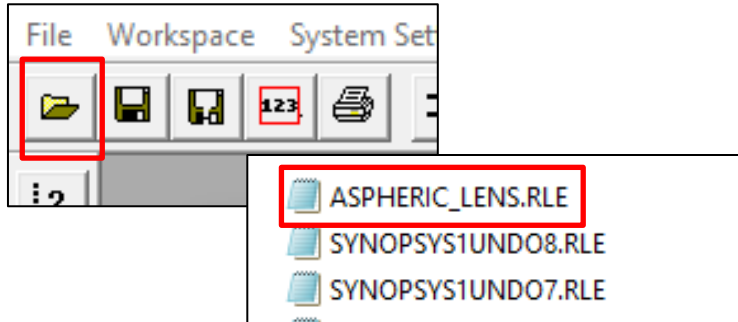
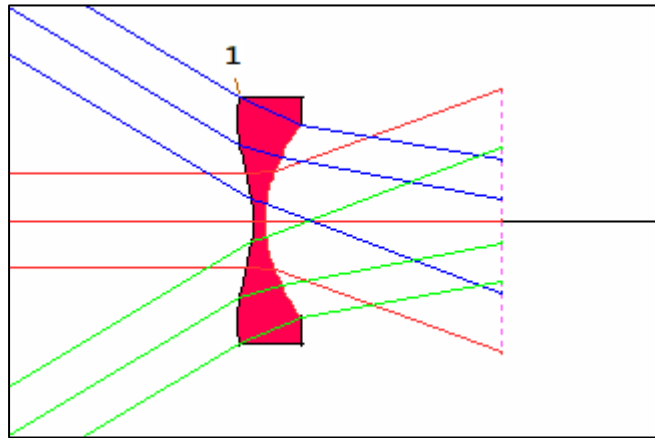


In the UP version of SYNOPSIS, when you run the command SPROFILE, it will create a 3D plot for the surface as well as a contour plot. Below is an example to demonstrate this feature.

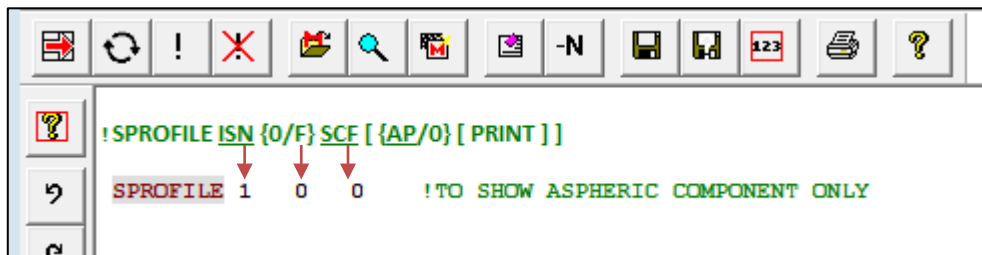
1. Launch the example aspheric lens file (filename ASPHERIC_LENS.rle) In SYNOPSIS™: click the '(file) open' button at the top toolbar. Then select the lens data file 'ASPHERIC_LENS.rle' in the default 'USER' directory from the Explorer window. Click OK. The command scripts that define this lens can be found at the end of the example.



2. The lens layout is displayed in the SketchPad as shown below.



3. Type the following command line in the macro editor then click 'Run' (or enter it at the command prompt in the Command Window):

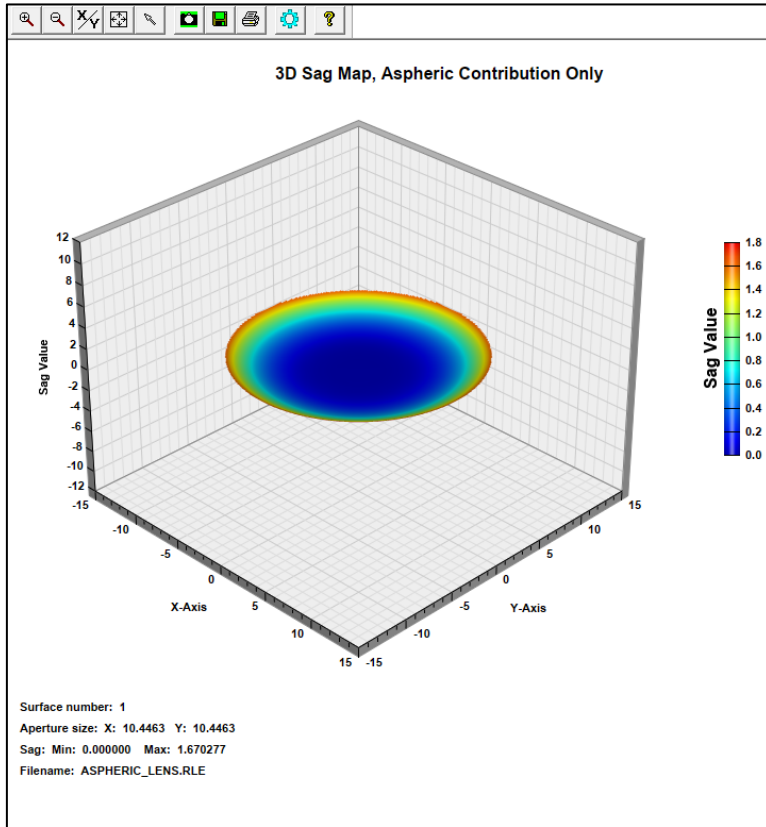


- The first numeric parameter in the command indicates the number of the surface (ISN). In this example, we set ISN = 1 to plot the shape of surface 1.
- The second parameter indicates the option of plotting only the aspheric components of the surface (when it's set to 0) or the full surface shape (including the spherical and aspherical components when it's set to F).
- The third parameter indicates the scale factor of the plots. In this example, we set it to 0 for default. For the new chart implemented in the User-Interface Plus version, the scale is automatically determined by the charting algorithm and SCF 0 is an acceptable input. You can then change the desired scale for the sag value presentation by using the X/Y range button in the plot window toolbar. However, in the Classic version, SCF needs to be a non-zero entry.

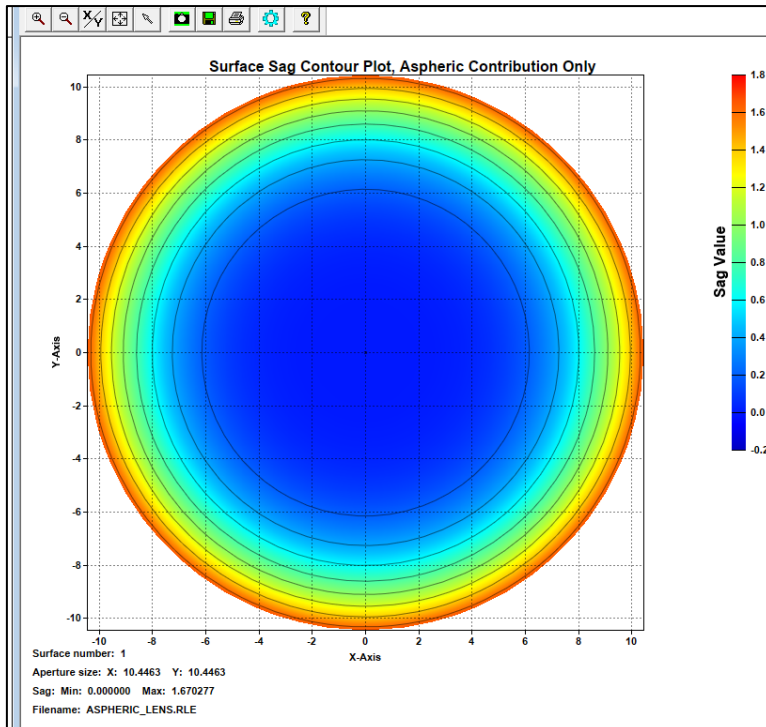
For more details on the use of the SPROFILE command, see User Manual **5.1.1 Surface Profile (SPROFILE)**.

Upon the completion of the command, the 3D surface plot and the contour plot are created for the aspheric component of surface 1 as shown below:

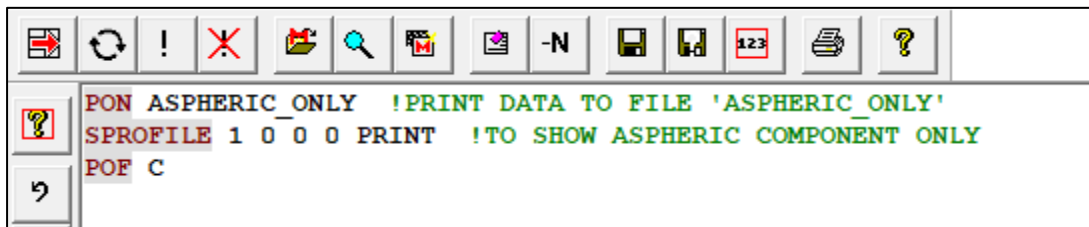
3D surface plot:



Contour plot:



4. To obtain a copy of the surface sag data in a textfile, you can run the following commands:



- The command PON in the first line tells SYNOPSIS™ to direct the printout to the textfile with the filename ASPHERIC_ONLY (see User Manual 13.10 Capturing printout (PON, POFF))
- The command POF C in the third line marks the turn off of the printout and close the textfile. Any printout between these two lines will be captured into the named textfile.
- In order to access the PRINT option to create the textfile, we need to enter all the 5 parameters after the keyword SPROFILE.

Syntax: **SPROFILE ISN {0/F} SCF [{AP/0} [PRINT]]**
SPROFILE 1 0 0 0 PRINT

- The first parameter (1) is the surface number.
- The second parameter (0) indicates we want to display the aspheric component only.
- the third parameter is the scale factor, set to the default value 0
- the fourth parameter is to specify the aperture size we want to display. . In this example, we set it to 0 for default. For the new chart implemented in the User-Interface Plus version, the aperture size is automatically determined by the charting algorithm and always display the full aperture. You can then change the desired aperture by using the X/Y range button in the plot window toolbar. However, in the Classic version, you will enter the desired aperture size in the command line.
- the fifth parameter (PRINT) activates the feature to print the data to the textfile.

Upon the completion of these commands, you can find the textfile in your working directory:

