POLARIZATION CAMERA TOOLBOX
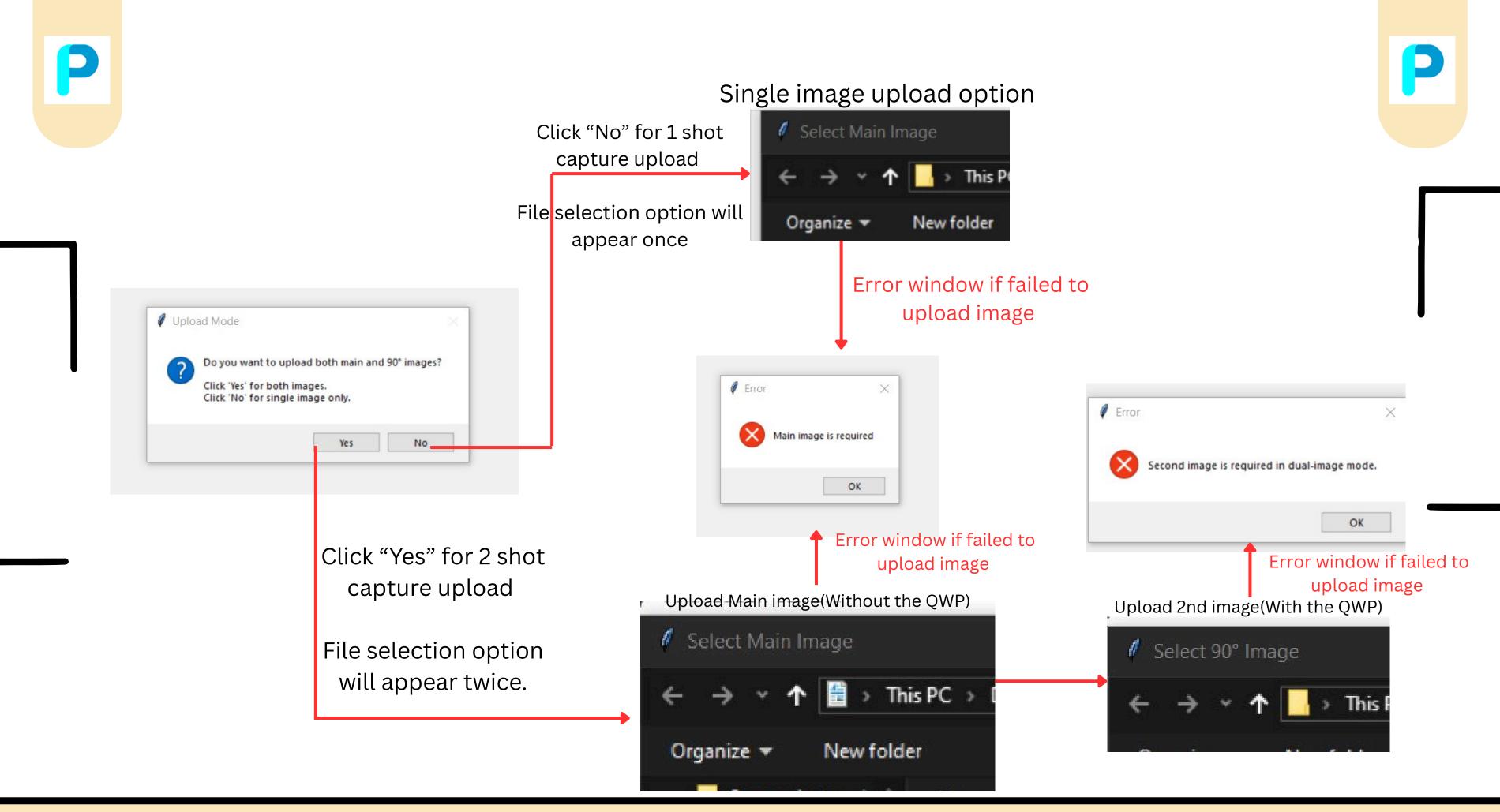
By - Kartikey Rathi

Opening Interface

Process Images

Show Matrix

Show Interactive Plot

Show I Subplots

Display Image

Step 1 : Click Process
images button.
Rest all buttons are
disabled without this.

New terminal
openend after
clicking "Process
Images"

Upload Mode ×

? Do you want to upload both main and 90° images?

Click 'Yes' for both images.
Click 'No' for single image only.

Yes   No

Single image upload option

Click "No" for 1 shot capture upload

File selection option will appear once

Select Main Image

← → ∨ ↑ 📁 > This P

Organize ▾   New folder

Error window if failed to upload image

Upload Mode   ✕

? Do you want to upload both main and 90° images?

Click 'Yes' for both images.
Click 'No' for single image only.

Yes   No

Click "Yes" for 2 shot capture upload

File selection option will appear twice.

Error   ✕

❌ Main image is required

OK

Error   ✕

❌ Second image is required in dual-image mode.

OK

Error window if failed to upload image

Error window if failed to upload image

Upload Main image(Without the QWP)

Select Main Image

← → ∨ ↑ 📄 > This PC >

Organize ▾   New folder

Upload 2nd image(With the QWP)

Select 90° Image

← → ∨ ↑ 📁 > This P

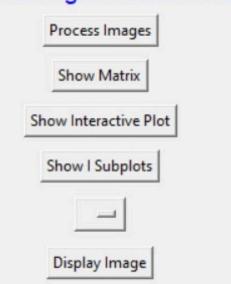# Processing window

Processing... Please wait...

Process Images

Show Matrix

Show Interactive Plot

Show I Subplots

⊐

Display Image

Processing completed

Done.

Process Images

Show Matrix

Show Interactive Plot

Show I Subplots

I_00 ⊐

Display Image

Single image uploaded
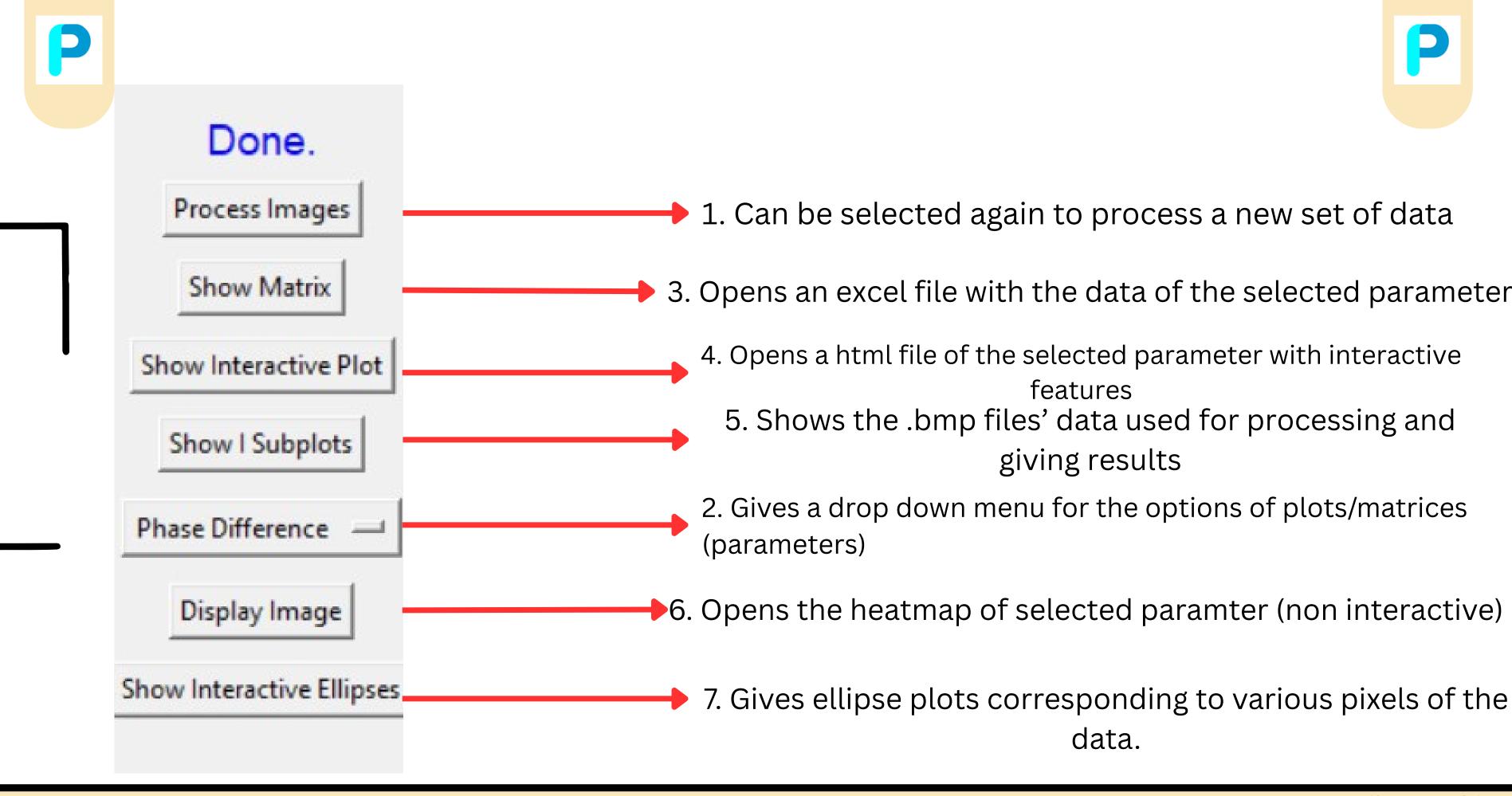
Processing completed

Done.

Process Images

Show Matrix

Show Interactive Plot

Show I Subplots

Phase Difference ⊐

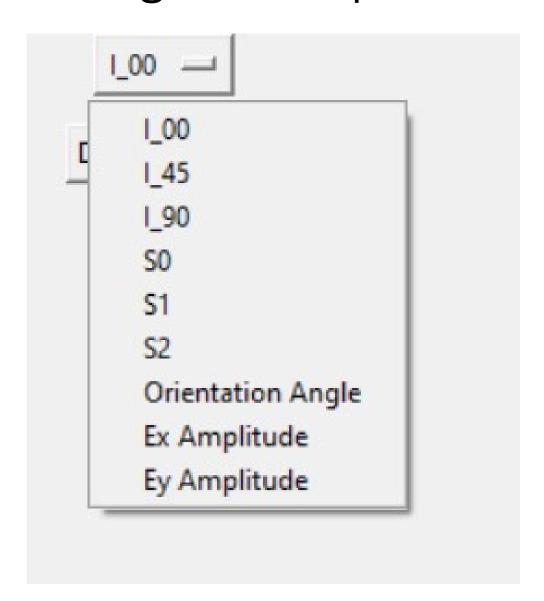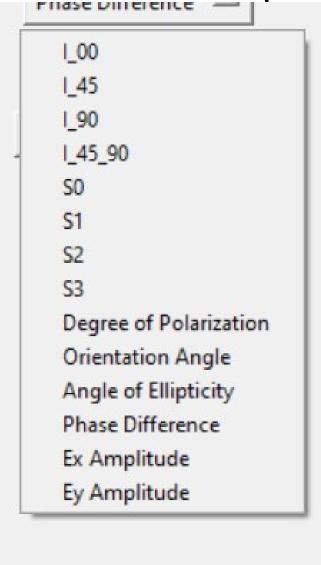Display Image

Show Interactive Ellipses

Two image uploaded

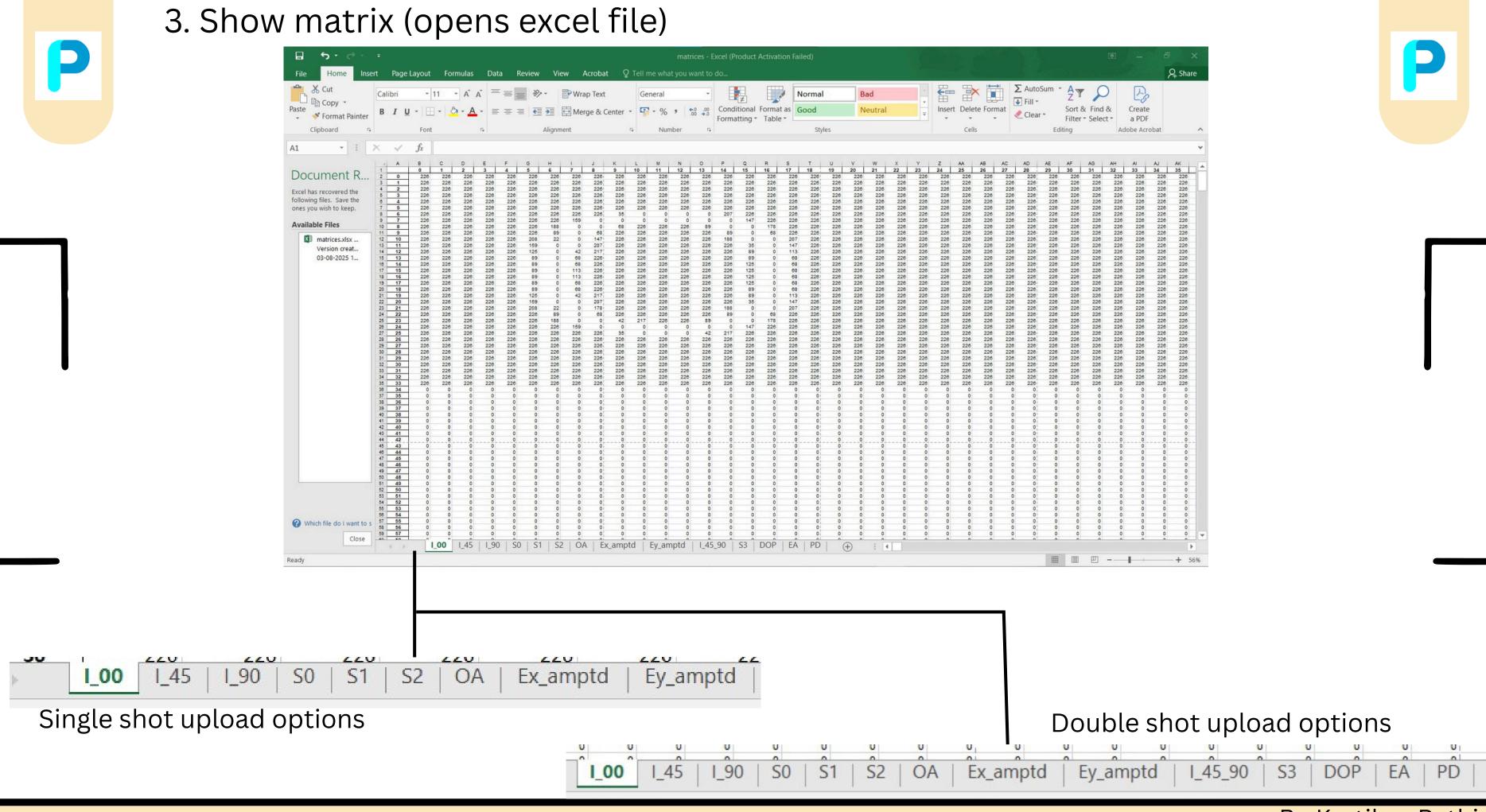the polarization ellipse plot can only be seen when both the datas are taken

Done.

Button	Description
Process Images	1. Can be selected again to process a new set of data
Show Matrix	3. Opens an excel file with the data of the selected parameter
Show Interactive Plot	4. Opens a html file of the selected parameter with interactive features
Show I Subplots	5. Shows the .bmp files' data used for processing and giving results
Phase Difference	2. Gives a drop down menu for the options of plots/matrices (parameters)
Display Image	6. Opens the heatmap of selected paramter (non interactive)
Show Interactive Ellipses	7. Gives ellipse plots corresponding to various pixels of the data.

2. Drop-down menu options(parameters)

Single shot upload

- I_00
- I_45
- I_90
- S0
- S1
- S2
- Orientation Angle
- Ex Amplitude
- Ey Amplitude

Double shot upload

Phase Difference

- I_00
- I_45
- I_90
- I_45_90
- S0
- S1
- S2
- S3
- Degree of Polarization
- Orientation Angle
- Angle of Ellipticity
- Phase Difference
- Ex Amplitude
- Ey Amplitude

3. Show matrix (opens excel file)

Single shot upload options

Double shot upload options
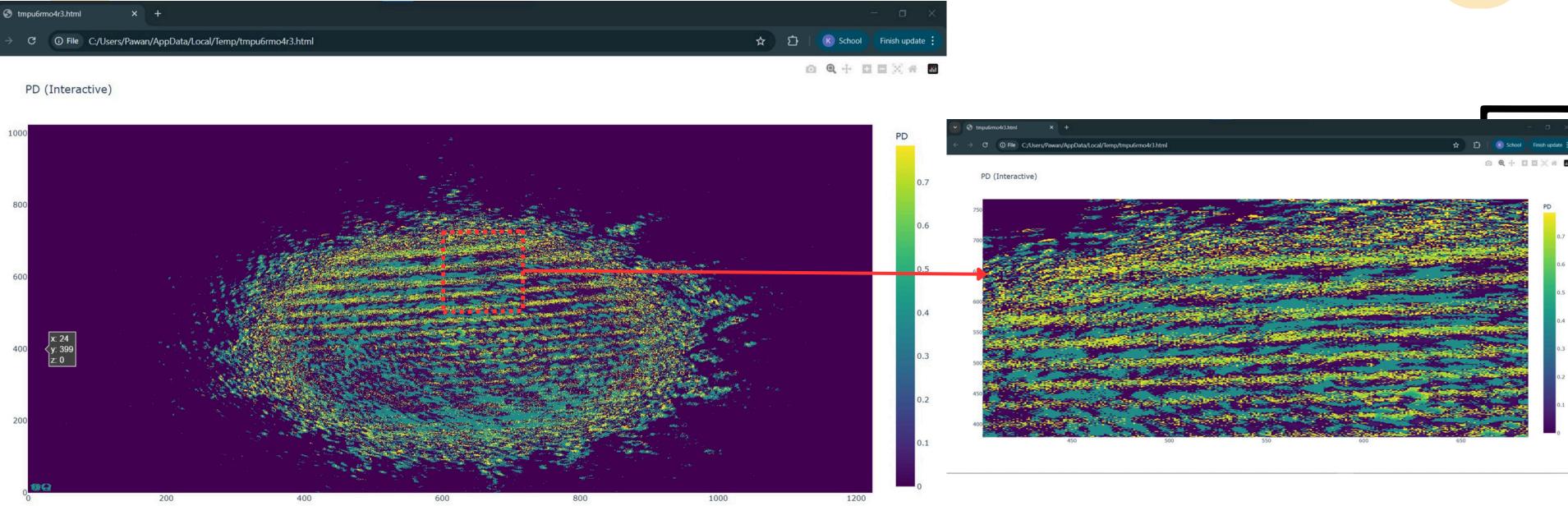
4. Show interactive plot (opens .html file)
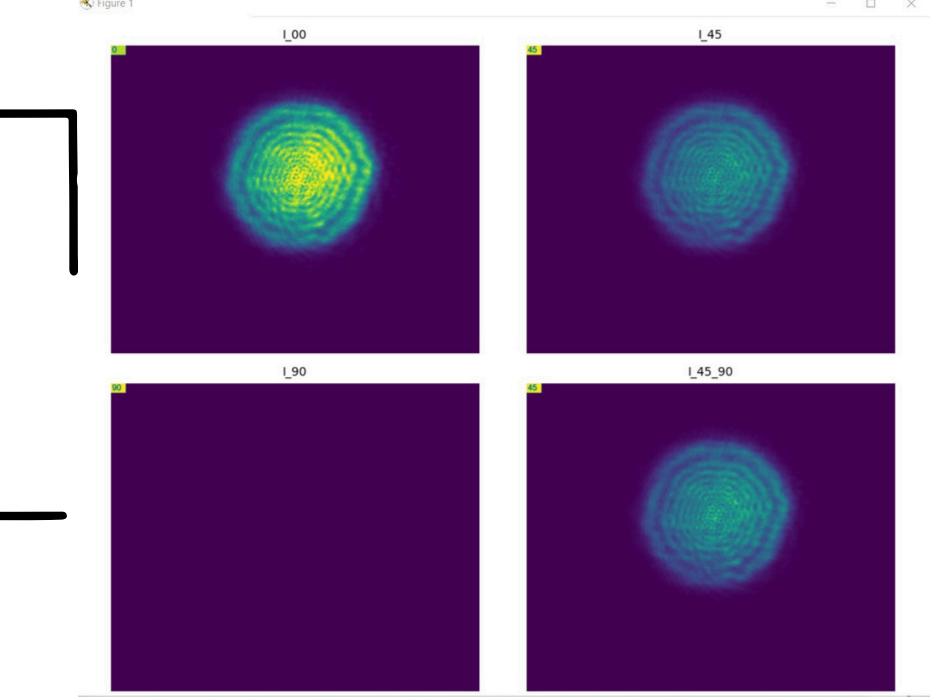

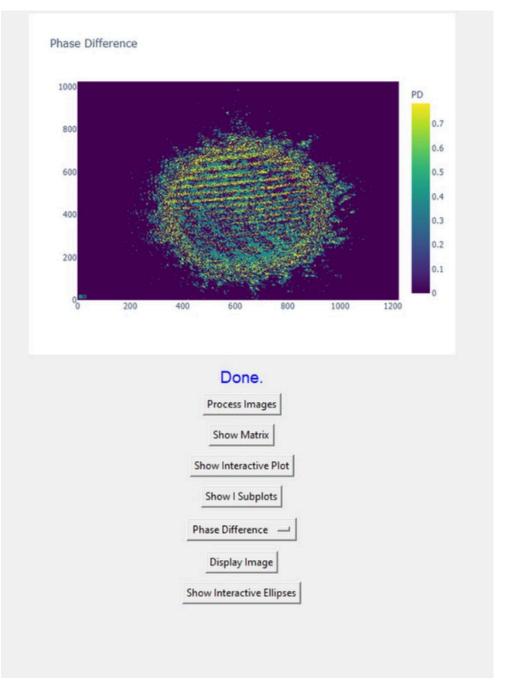a portion of the interactive plot can be zoomed and value at a particular (x,y) can be viewed

5. Show I_subplots

6. Display Image(shows image in the terminal)

7. Show interactive ellipse plot
 (shows ellipse plots which can be zoomed and viewed at particular points)

Interactive Polarization Ellipses