
Data Analysis

How to data analysis – contents

1. Get the data
2. Image on Makalii
3. Plot and fit by Exel

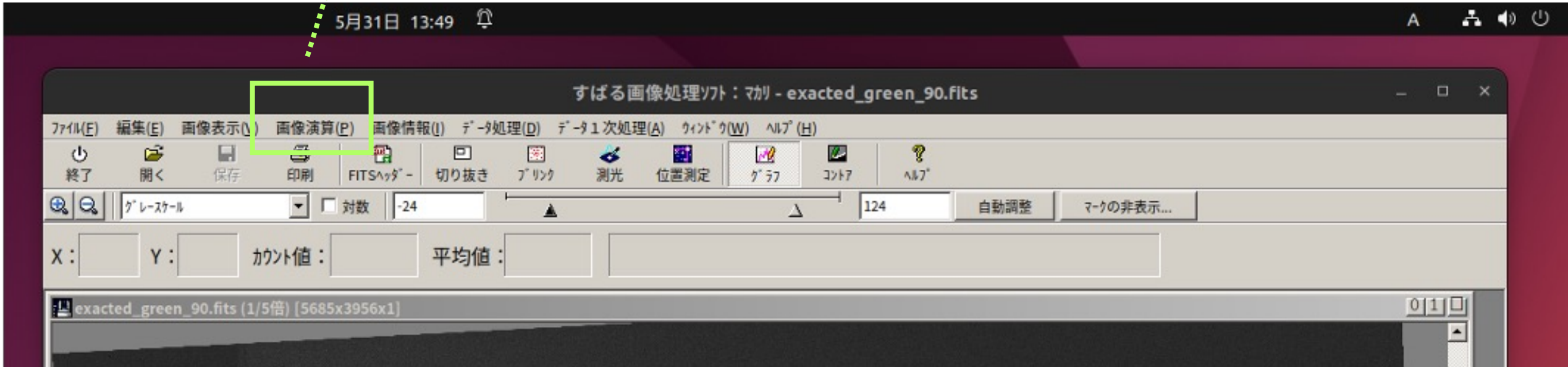
1.get the fits data from here

or click here

2. Image on Makalii

2-1.if the beam is not horizontal, rotate the image.

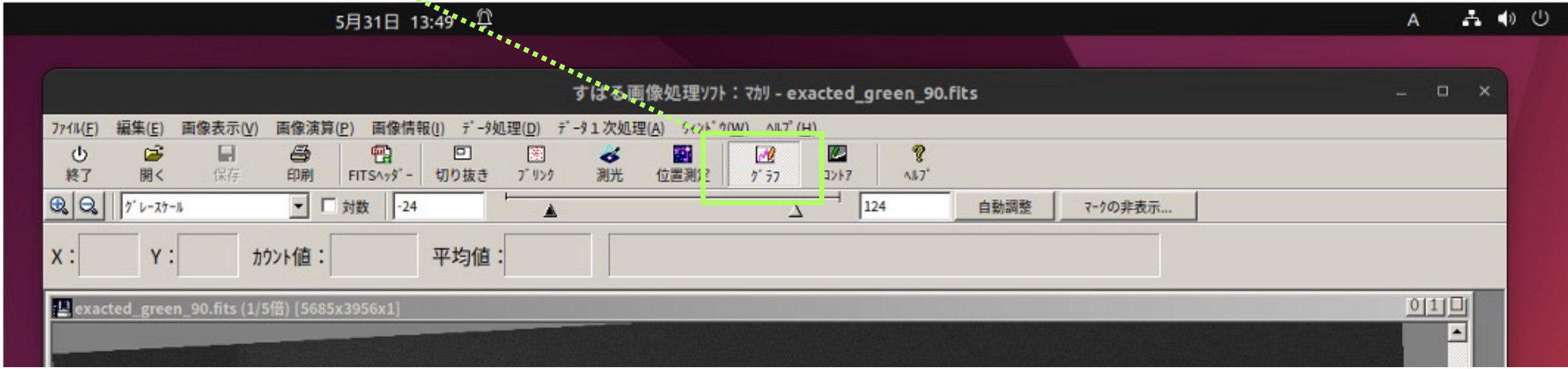
“画像演算”(image calculation)⇨“回転” (rotate)



2. Image on Makalii

2-2. Determine the area to plot

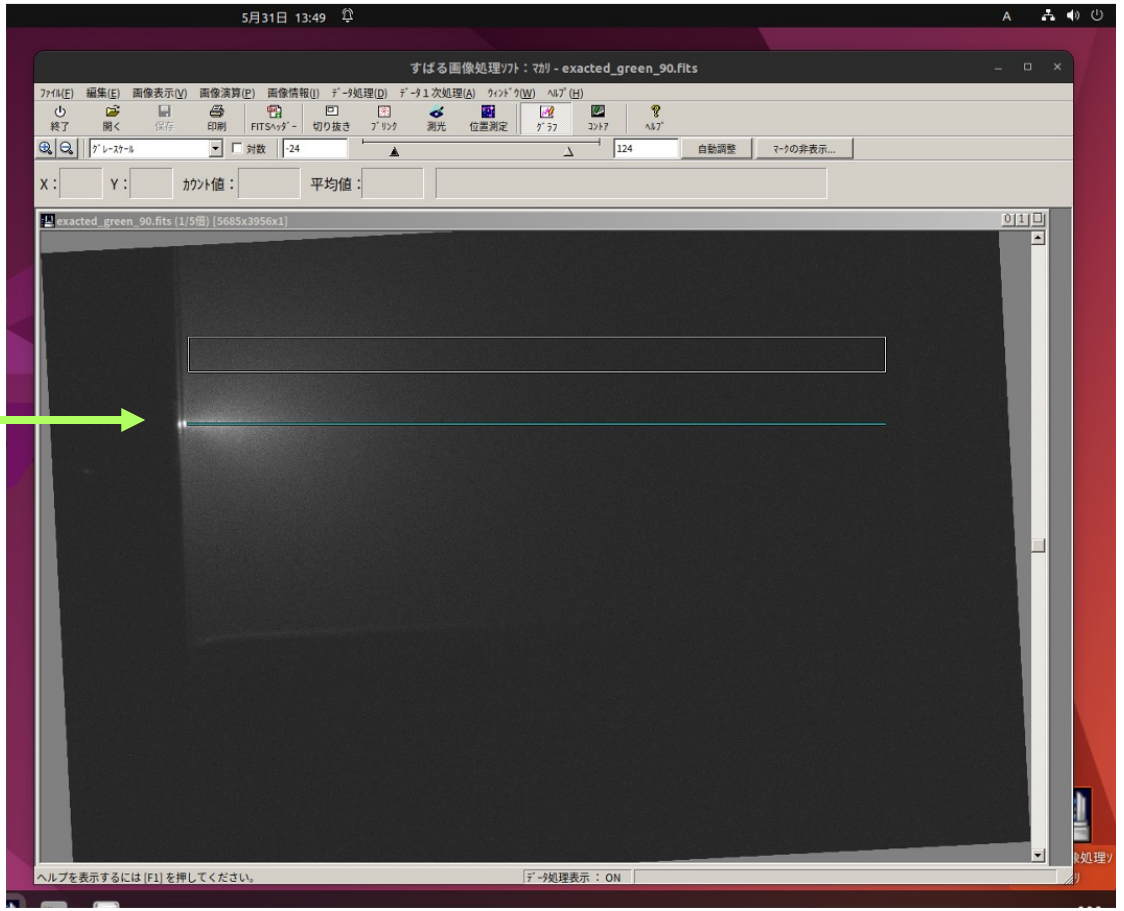
“グラフ”



2. Image on Makalii

2-2. Determine the area to plot

plot a line on the laser beam like this



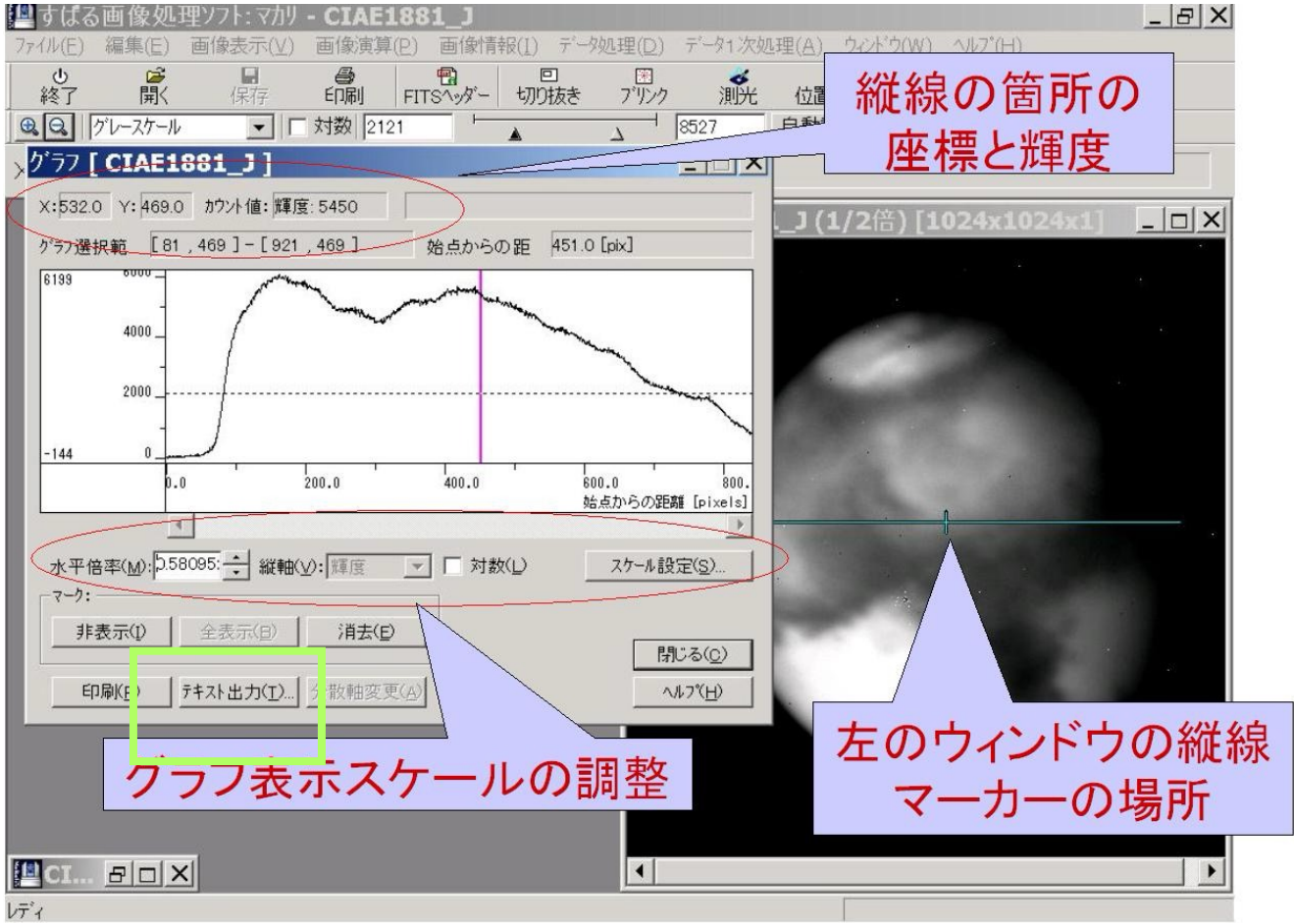
2. Image on Makalii

2-2. export as a csv file

Click “テキスト出力(T)”

in the lower left.

and then, name and save the file.



2. Image on Makalii

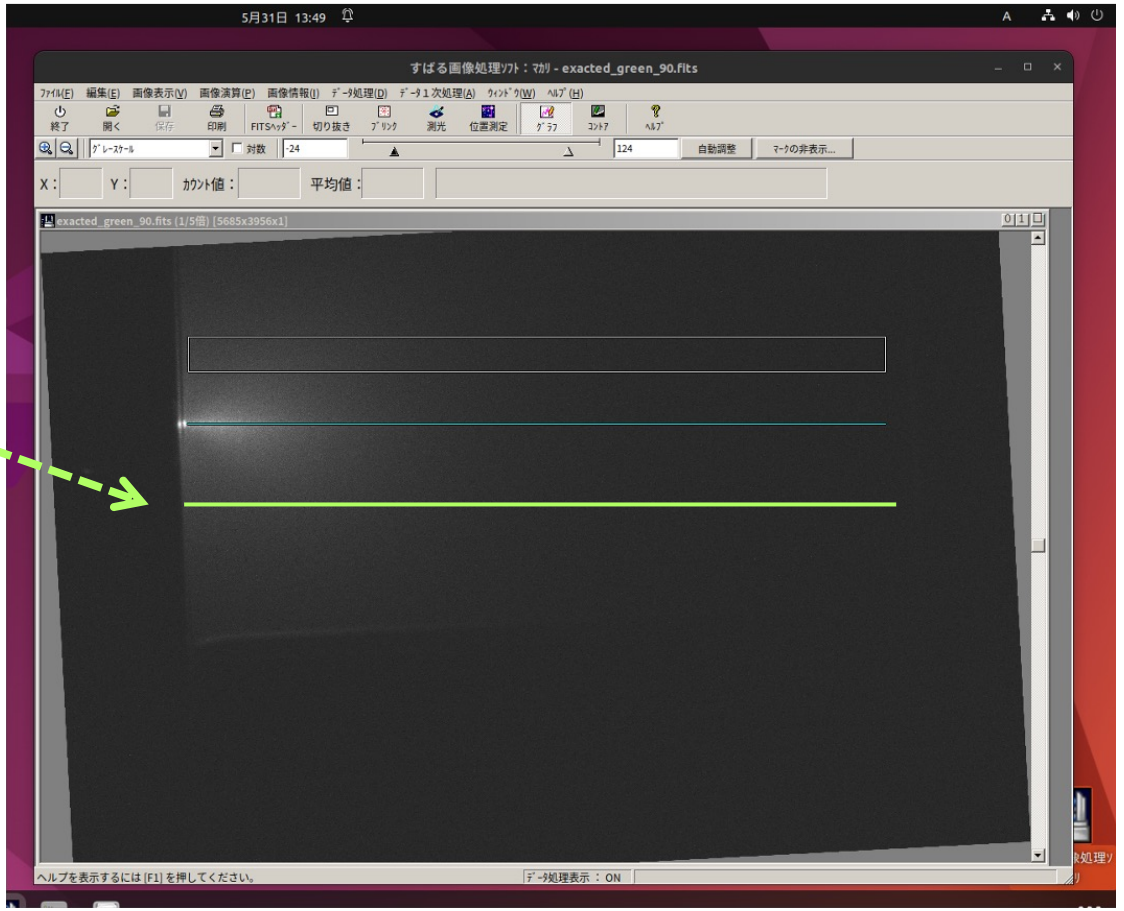
2-3. export the background

To exact the background noise, get the background data like this

and export as a csv file same way.

※set the background line parallel to the data on the beam.

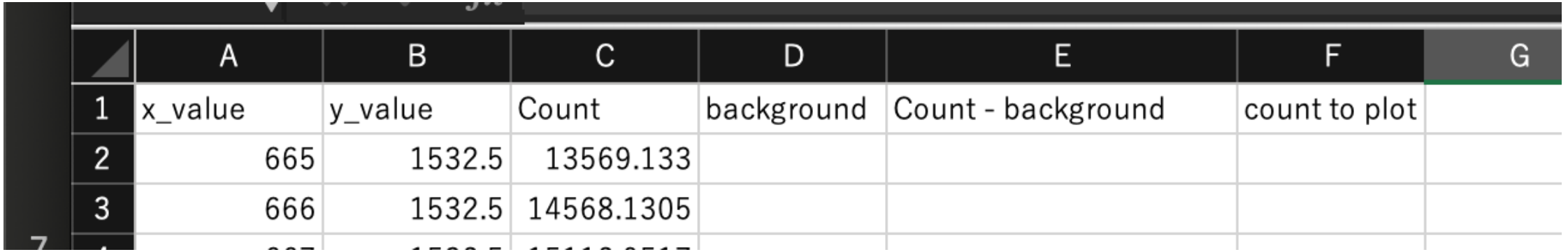
※ ensure that the starting and ending x-values of the line match those of the "on the beam" data.



3.plot and fitting on Excel

3-1. open the csv file with Excel

①set the column name



	A	B	C	D	E	F	G
1	x_value	y_value	Count	background	Count - background	count to plot	
2	665	1532.5	13569.133				
3	666	1532.5	14568.1305				

②Copy & paste the counts of background to column “D”

③Exact the background count from “Count” on Excel

3.plot and fitting on Excel

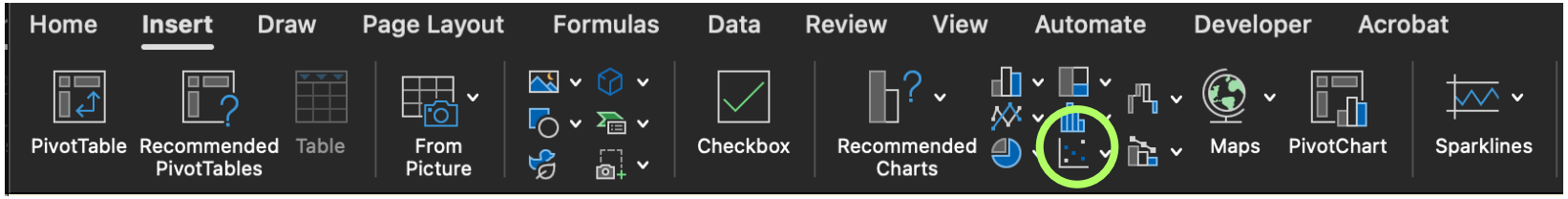
3-1. open the csv file with Excel

	A	B	C	D	E	F	G
1	x_value	y_value	Count	background	Count - background	count to plot	
2	665	1532.5	13569.133				
3	666	1532.5	14568.1305				

④ Calculate the log of (Count - background) and place the result in the "count to plot" column.

3.plot and fitting on Excel

3-2. plot the data



①after the choose “x_value” and “count to plot” columns, insert scatter graph.

②right-click the plotted data and Add trendline (linear), then display the equation on the chart.

③compare the inclination between different wavelength.