

# III. Results

## b) Demonstration – Take line measures

Run this

Nom	Modifié le	Type	Taille
essais	04/06/2024 14:46	Dossier de fichiers	
experiment_conditions	04/06/2024 11:18	Dossier de fichiers	
.gitignore	21/05/2024 10:04	Fichier GITIGNORE	1 Ko
compute_angles.m	10/04/2024 09:41	MATLAB Code	1 Ko
compute_stats.m	04/06/2024 11:10	MATLAB Code	5 Ko
displayPhaseAngle.m	03/06/2024 15:25	MATLAB Code	1 Ko
file_names_data.mat	03/06/2024 14:19	MATLAB Data	1 Ko
filter_Fx_Fy.m	04/06/2024 11:06	MATLAB Code	1 Ko
generate_test_file.m	04/06/2024 11:15	MATLAB Code	4 Ko
getColorForIteration.m	04/06/2024 16:49	MATLAB Code	1 Ko
loadMeanData.m	10/04/2024 09:39	MATLAB Code	1 Ko
main.m	04/06/2024 15:06	MATLAB Code	27 Ko
params_line.pssettings	31/05/2024 14:54	PicoScope 7 Data file	4 Ko
params_points.pssettings	22/05/2024 11:12	PicoScope 7 Data file	4 Ko
performLinearRegression.m	10/04/2024 09:40	MATLAB Code	1 Ko
plot_temperature.m	04/06/2024 11:32	MATLAB Code	5 Ko
plotData.m	04/06/2024 15:41	MATLAB Code	1 Ko
plotFilledAreas.m	04/06/2024 11:04	MATLAB Code	1 Ko
plotRegressionAndFilledAreas.m	17/05/2024 16:21	MATLAB Code	1 Ko
plotRegressionLines.m	10/04/2024 09:40	MATLAB Code	1 Ko
prez_measure_points.pdf	16/04/2024 10:54	Microsoft Edge PDF Document	1 019 Ko
usergetfiles.m	10/04/2024 17:17	MATLAB Code	1 Ko

MATLAB R2023b - academic use

HOME PLOTS APPS EDITOR PUBLISH VIEW

New Open Save Compare Go To Find Refactor Run Profiler Section Break Run and Advance Run Section Run to End Run Step Stop

FILE NAVIGATE CODE ANALYZE SECTION RUN

Current Folder: C:\Users\lucas\Desktop\PRI\_Lucas\enregistrements

Editor: C:\Users\lucas\Desktop\PRI\_Lucas\enregistrements\main.m

Workspace

Name Value

```

1 function main()
2
3     close all
4     clc
5
6     % By default we don't plot the boxplots, we don't have samples and we
7     % don't merge the points
8     boxplots = false;
9     sample = false;
10    % merge = false;
11
12    % Decide if we want to take the sample POINTS measures
13    prompt = 'Do you want to take the sample POINTS measures (and see steps) ? (y/n): ';
14    user_response = input(prompt, 's');
15
16    if strcmpi(user_response, 'y')
17
18        currentFolder = pwd;
19        paramsFilePath = fullfile(currentFolder, 'params_points.psettings');
20        pdfFilePath = fullfile(currentFolder, 'prez_measure_points.pdf');
21        winopen(paramsFilePath);
22        winopen(pdfFilePath);
23
24    end
25
26    prompt = 'Do you want to take the sample LINE measures (and see steps) ? (y/n): ';
27    user_response = input(prompt, 's');
28

```

Command Window

fx >>

main.m (Function)

main()

Run

Editor - C:\Users\lucas\Desktop\PRI\_Lucas\enregistrements\main.m

```
main.m
1 function main()
2
3     close all
4     clc
5
6     % By default we don't plot the boxplots, we don't have samples and we
7     % don't merge the points
8     boxplots = false;
9     sample = false;
10    % merge = false;
11
12    % Decide if we want to take the sample POINTS measures
13    prompt = 'Do you want to take the sample POINTS measures (and see steps) ? (y/n): ';
14    user_response = input(prompt, 's');
15
16    if strcmpi(user_response, 'y')
17
18        currentFolder = pwd;
19        paramsFilePath = fullfile(currentFolder, 'params_points.pssettings');
20        pdfFilePath = fullfile(currentFolder, 'prez_measure_points.pdf');
21        winopen(paramsFilePath);
22        winopen(pdfFilePath);
23
24    end
25
26    prompt = 'Do you want to take the sample LINE measures (and see steps) ? (y/n): ';
27    user_response = input(prompt, 's');
28
```

Command Window

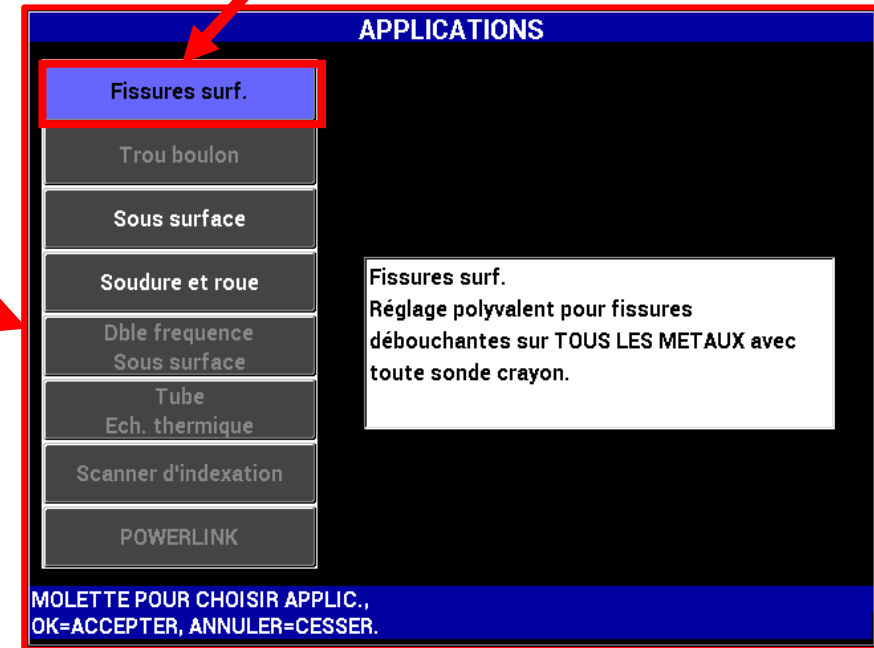
```
Do you want to take the sample POINTS measures (and see steps) ? (y/n): N
fx Do you want to take the sample LINE measures (and see steps) ? (y/n):
```

Answer yes "y"

## Measurement circuit



Select application "Fissures surf."

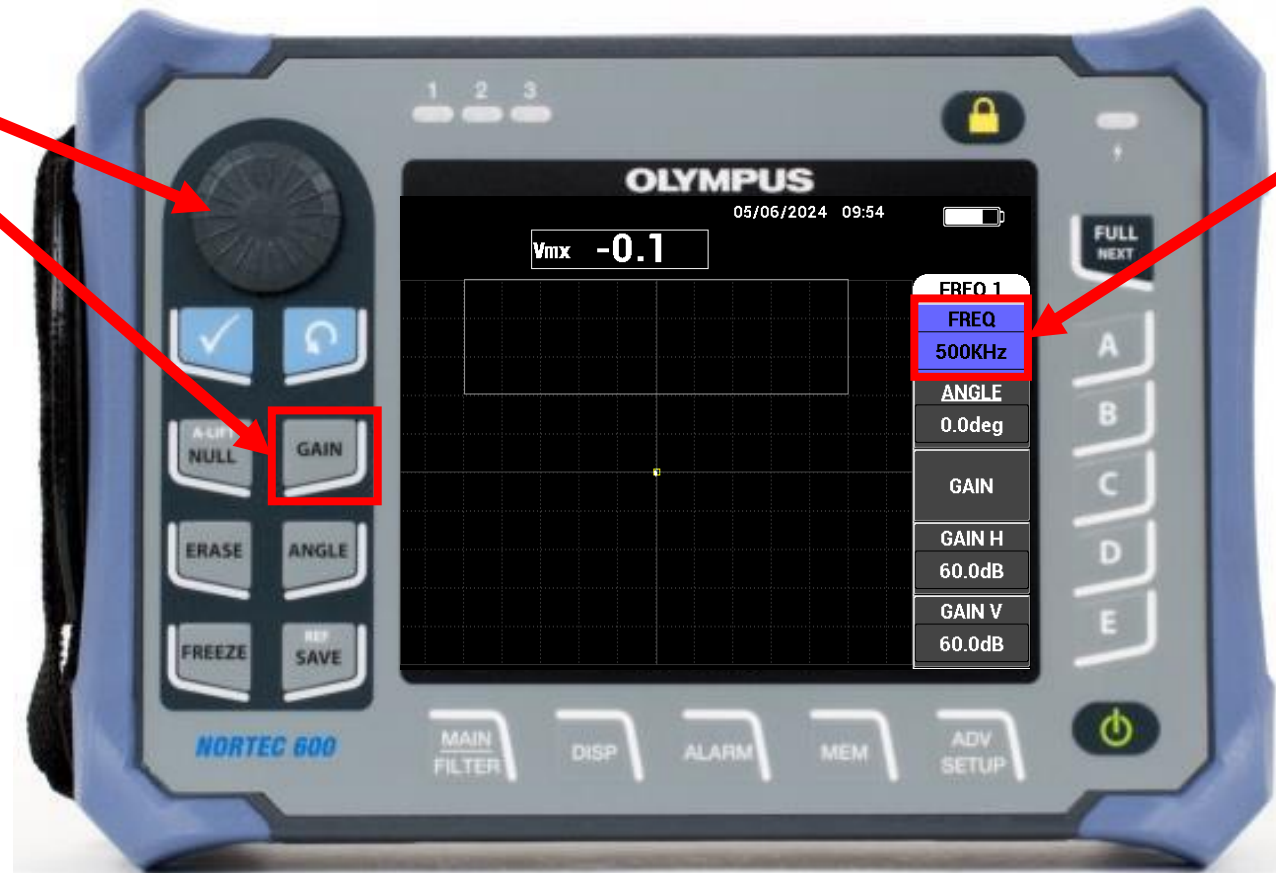


## Set :

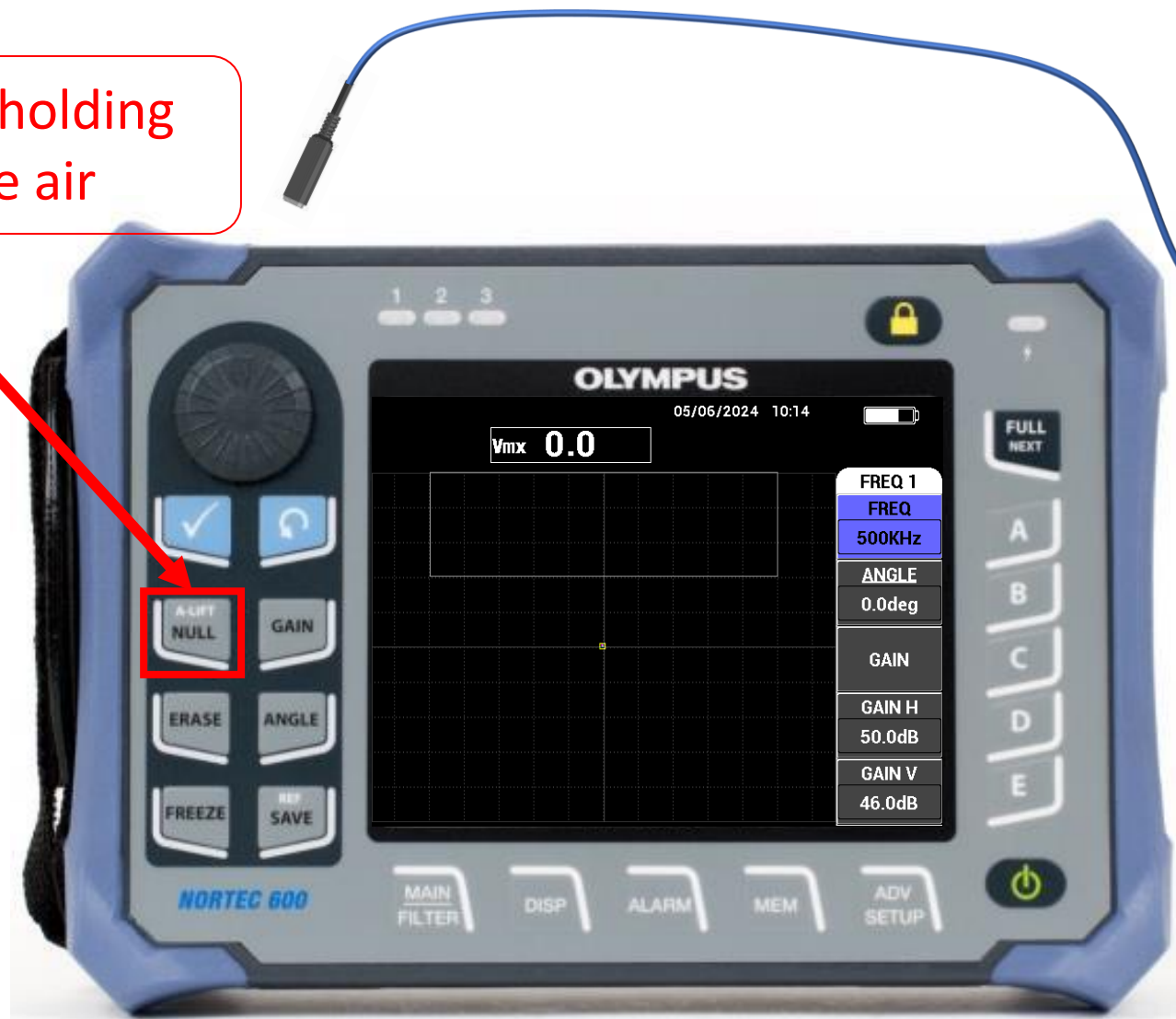
- Gain H = 50 dB
- Gain V = 44 dB

## Set :

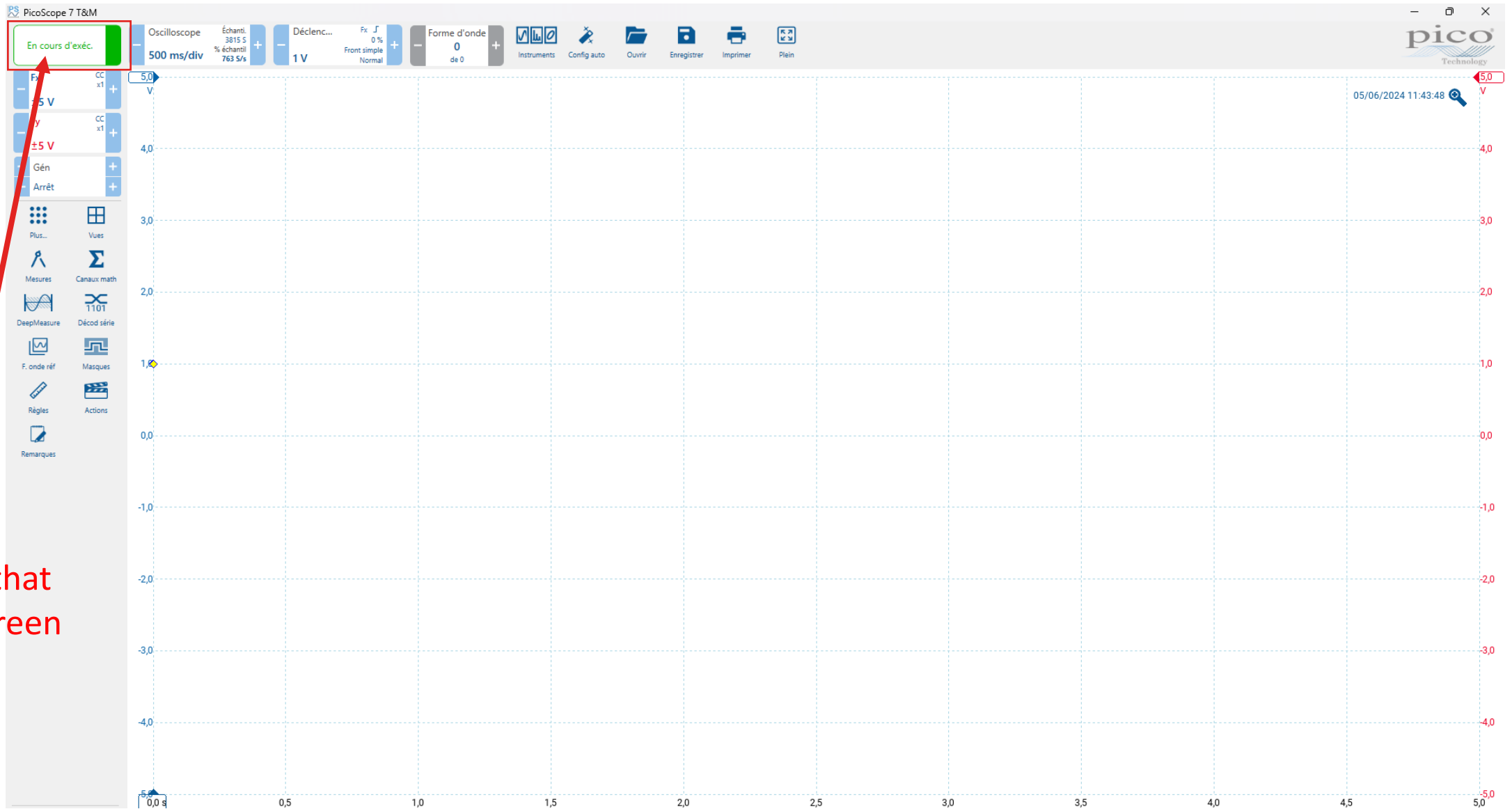
- FREQ 500KHz



Set the zero while holding  
the probe in the air







Click so that  
it turns green

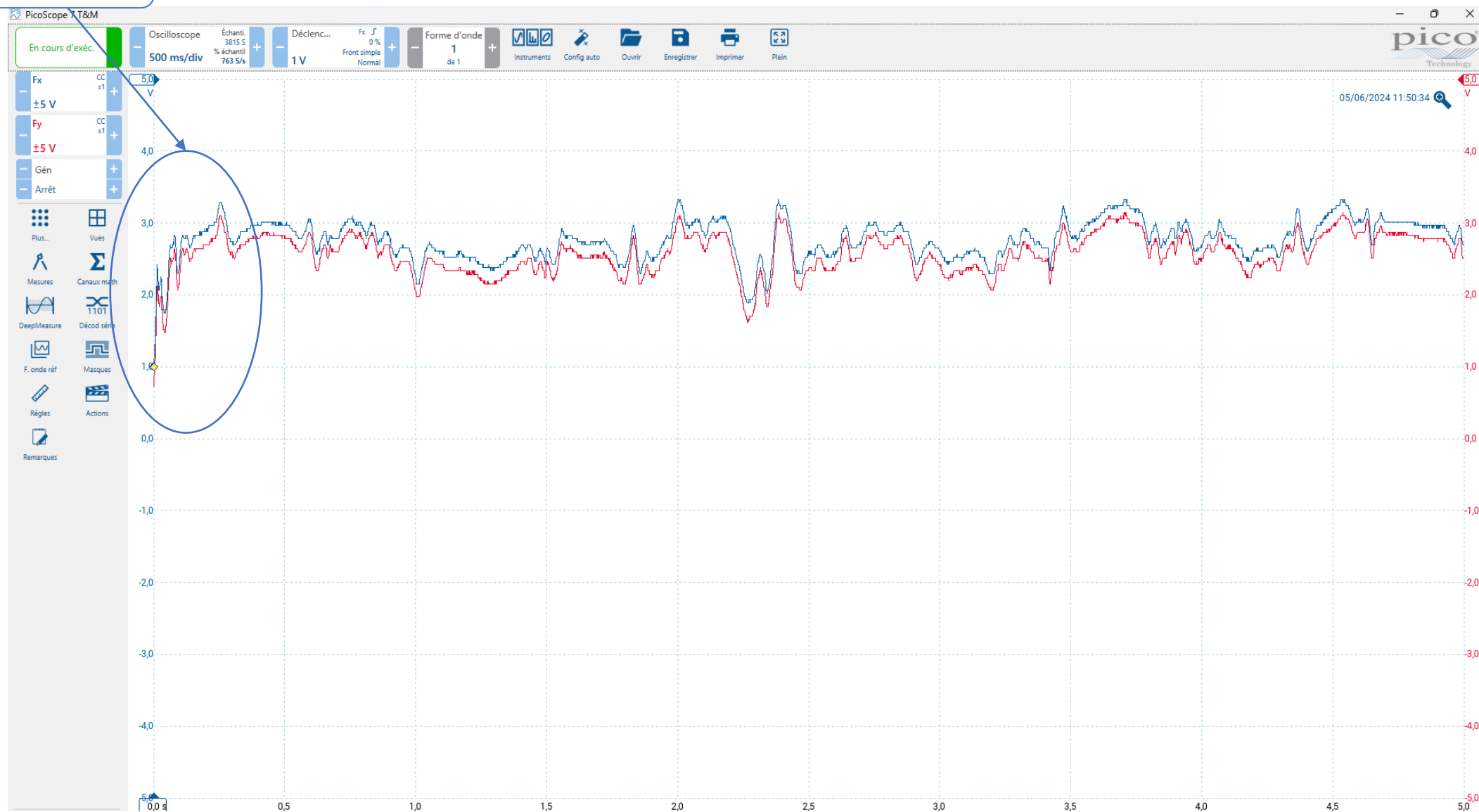


- Step : **Measure**



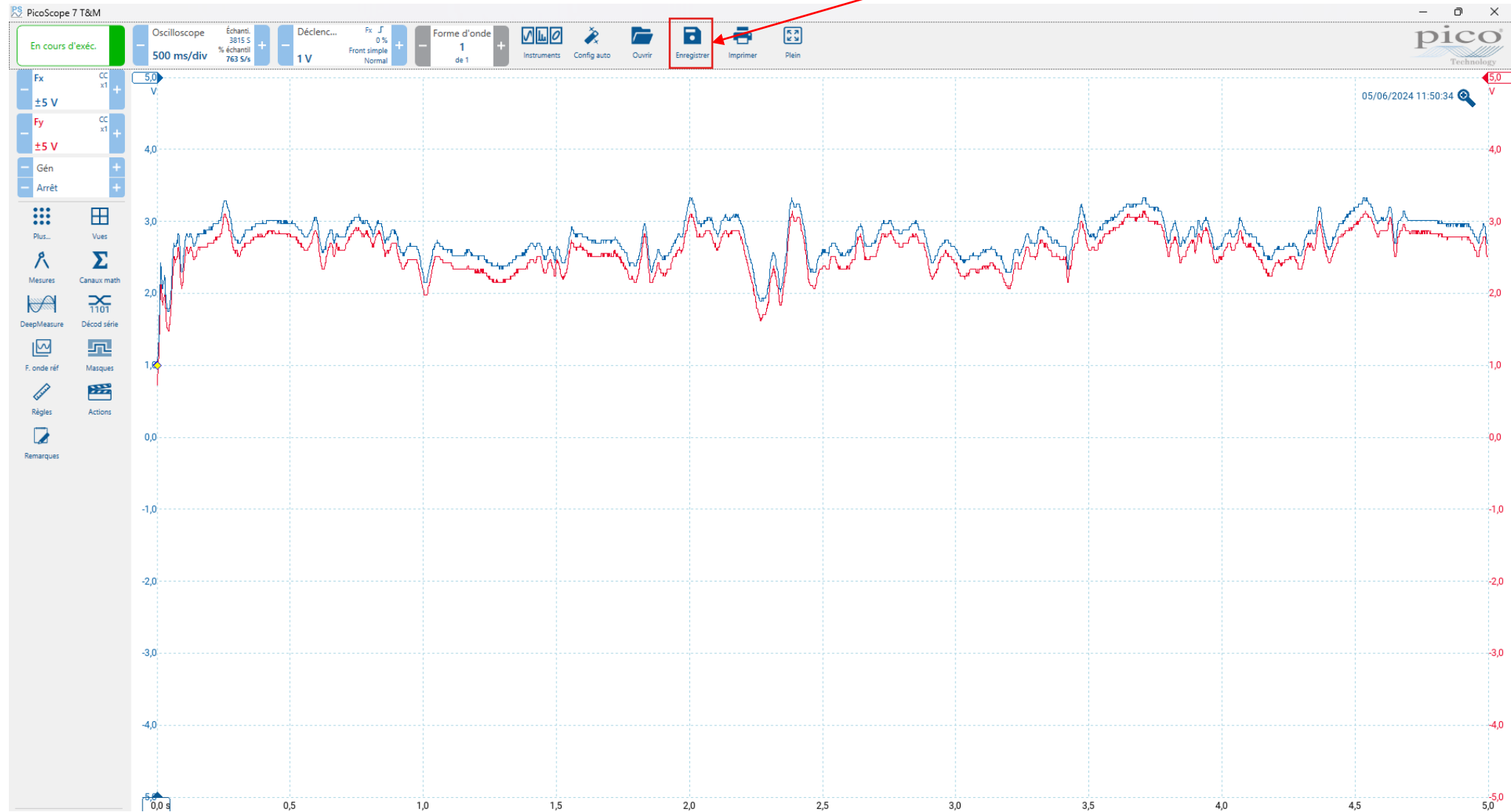
Try to maintain perpendicularity  
by pressing the **adjustable collar**,  
move the probe during ~5  
seconds in all directions

# Trigger

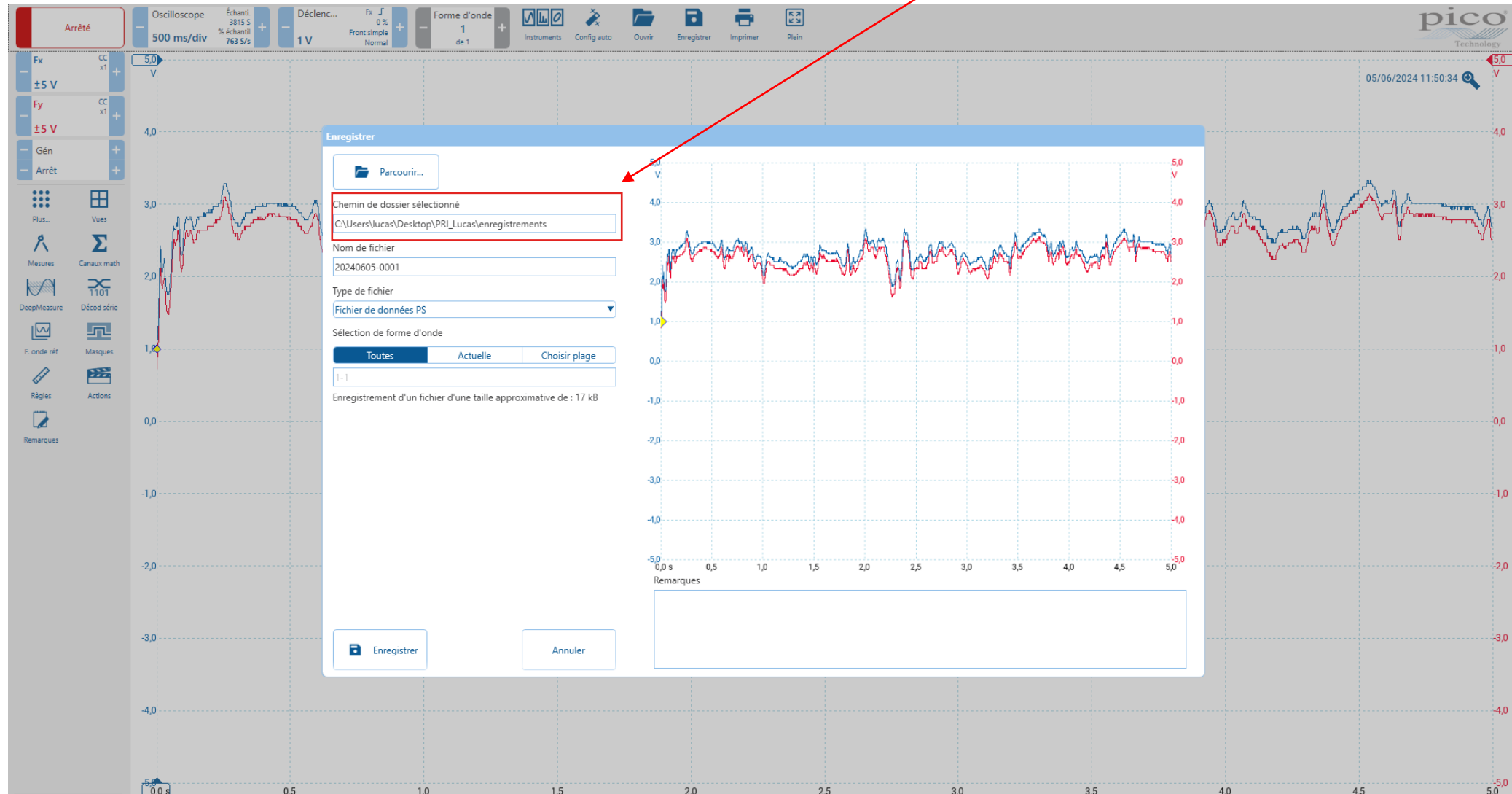


- Step : **Save**

Here



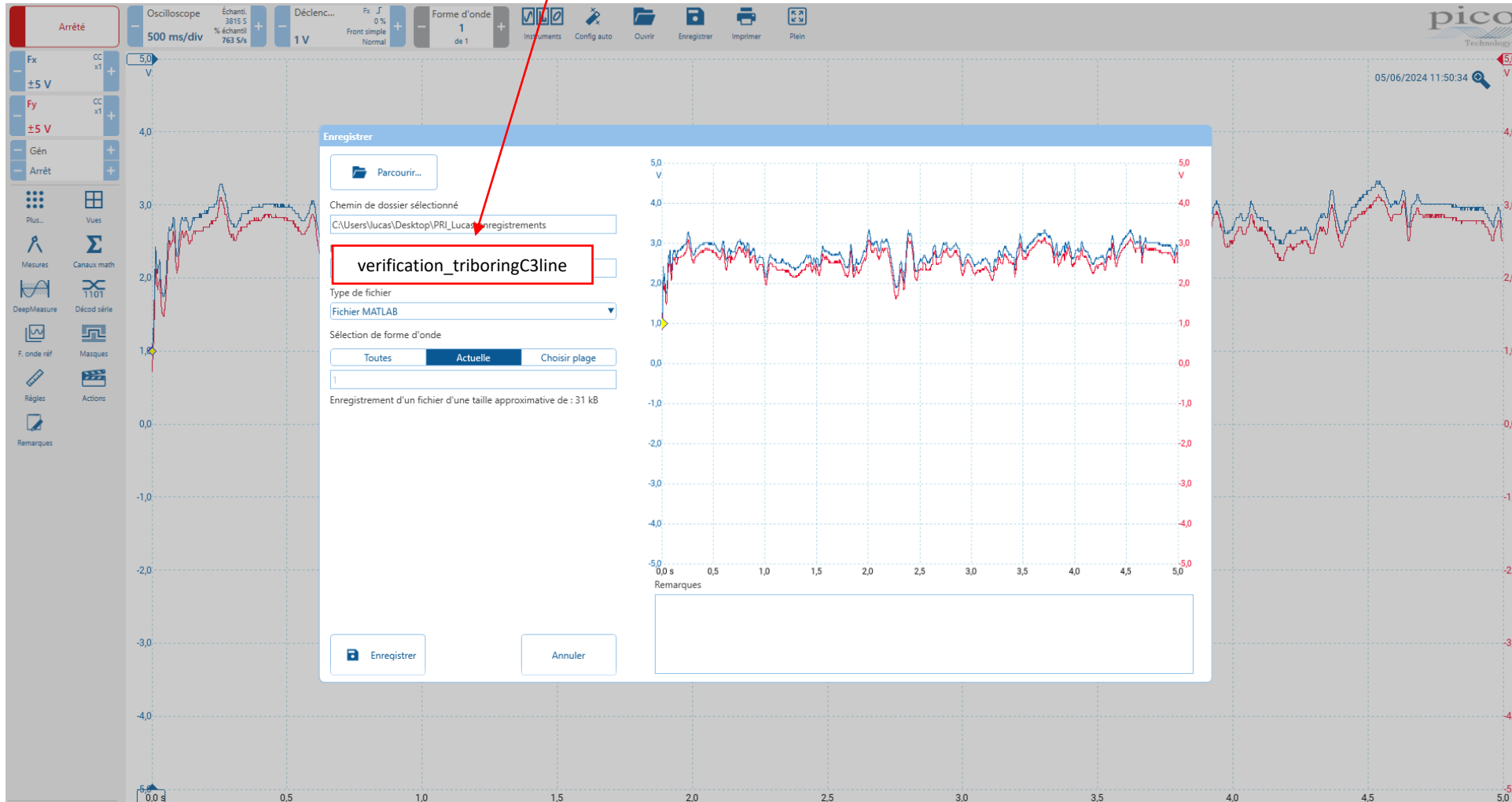
- Step : **Save** Here choose path : ['C:\Users\'',user,'\Desktop\PRI\_Lucas\enregistrements\']



- Step : **Save**

Here file name : {type}\_{*sample name*}line\_{sample index}  
 Example : verification\_triboringC3line

**Important keyword**



*Types :*

- verification
- calibration

*Sample name :*  
**"Only calibration" names ! :**

- perlite
- martensite
- WEL

**Don't use these names on verification !**

*Sample index :*  
 Not mandatory, each sample here is a line with thousands of points

- Step : **Save**

Here select MATLAB (.mat)

