PulseHeatPipe

PyPulseHeatPipe is a Python Library for data analysis and for data plotting/visualisation specifically for PHP experimental data.

pkg installation

```
pip install PyPulseHeatPipe

# for pkg upgrade
pip install --upgrade PyPulseHeatPipe
```

Usage:

importing the module

```
from PyPulseHeatPipe import PulseHeatPipe
```

creating the reference variable

```
analysis = PulseHeatPipe("datapath", "sample_name")
```

for a class help

```
help(analysis)
```

for a function help

```
help(analysis.data_etl)
```

using a function from the class

```
df, df_conv = analysis.data_etl()
```

to create blank file

```
analysis.blank_file()
```

list of available functions

0. blank_file
1. data_etl
2. gibbs_fe
3. data_chop
4. data_stat
5. data_property_avg
6. best_TP
7. plot_all_data

8. plot_Te_Tc
9. plot_eu

Example:

```
# importing module
from PyPulseHeatPipe import PulseHeatPipe
from PyPulseHeatPipe import DataVisualisation

analysis = PulseHeatPipe("datapaht", "sample_name")
visual = DataVisualisation("datapaht", "sample_name")

# calling help
help(analysis.data_etl)
help(visual.plot_all_data)

# using methods eg;
# for ETL
df, df_conv = analysis.data_etl()

# for visulisation of all thermal properties
visual.plot_all_data(df_gfe)
```

NOTE: The experimental data file must prepared in '.xlsx' format. The data must contain at least following columns with mentioned titles:

> **samle_data.xlsx format**

t(min)	Tc[C]	Te[C]	P[bar]	Q[W]	alpha	beta	pulse
1	30	35	700	80	90	0	2
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here,

'time'= timestamp, 'Te[C]'= Evaporator Temperature, 'Tc[C]'= Condenser Temperature, 'P[bar]'= Pressure (gauge) of PHP, 'Q[W]'= Power Supply, 'alpha'= Horizontal Angle of PHP, 'beta'= Vertical Angle of PHP, 'pulse'= Visible pulse generation (y=1/n=0)