# Measurements

March 16, 2022

## 1 PARAMETERS

```
HBox(children=(Label(value='Sample name :'), Text(value='test',␣
↪placeholder='Custom Name')))
```

```
HBox(children=(Label(value='Measure duration [s] :'), parameter(value=3.0,␣
↪continuous_update=True, step=0.1)))
```

```
HBox(children=(Label(value='Load resistance [Ohms] :'), parameter(value=300000.
↪0, continuous_update=True, step…
```

```
HBox(children=(Label(value='Nombre of periods [1] :'), parameter(value=5.0,␣
↪continuous_update=True, step=1.0))…
```

```
HBox(children=(Label(value='Circuit resistance [Ohms] :'), parameter(value=1.0,␣
↪continuous_update=True, step=1…
```

```
HBox(children=(Label(value='Maximum frequency for analysis: [Hz] :'),␣
↪parameter(value=100.0, continuous_update…
```

```
Button(description='Save parameters', style=ButtonStyle())
```
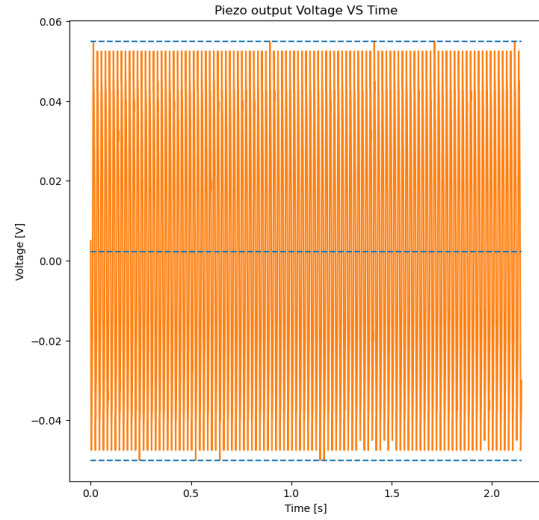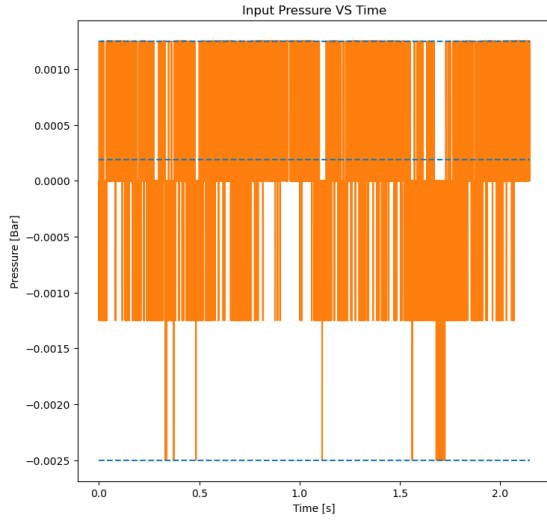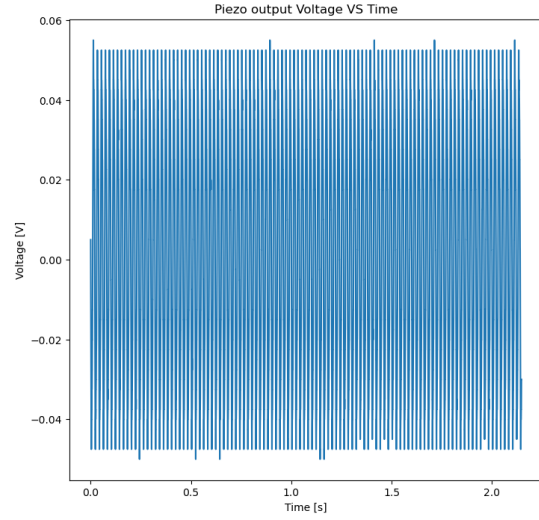
```
Output()
```

```
Sample name: test
```

|   | Parameter | Value | Unit |
|---|---|---|---|
| 0 | Sample name | test | |
| 1 | Measure duration | 3.0 | [s] |
| 2 | Rload | 300000.0 | [Ohms] |
| 3 | Nb Periods | 5.0 | [1] |
| 4 | R Circuit | 1.0 | [Ohms] |
| 5 | Max Frequency | 100.0 | [Hz] |

## 2 PRESSURE AND VOLTAGE MEASUREMENTS

```
The input frequency is:  0.93 Hz
```
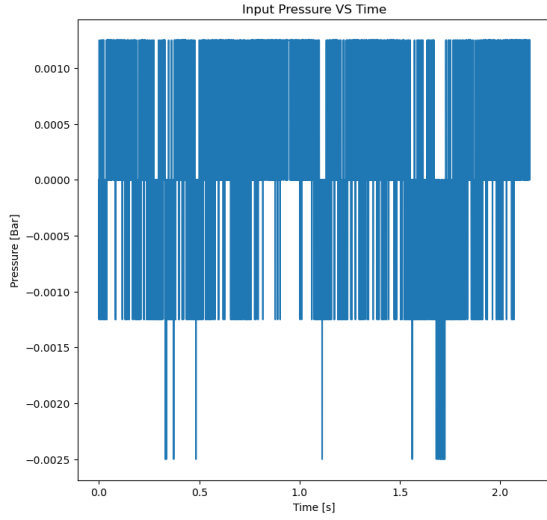
| | Variable | Min | Max | Peak to peak | Mean | Mean of absolute value |
|---|---|---|---|---|---|---|
| 0 | Pressure [Bar] | -2.50e-03 | 1.25e-03 | 3.75e-03 | 1.93e-04 | 5.06e-04 |
| 1 | Voltage [V] | -5.00e-02 | 5.50e-02 | 1.05e-01 | 2.23e-03 | 2.96e-02 |

# 3 POWER
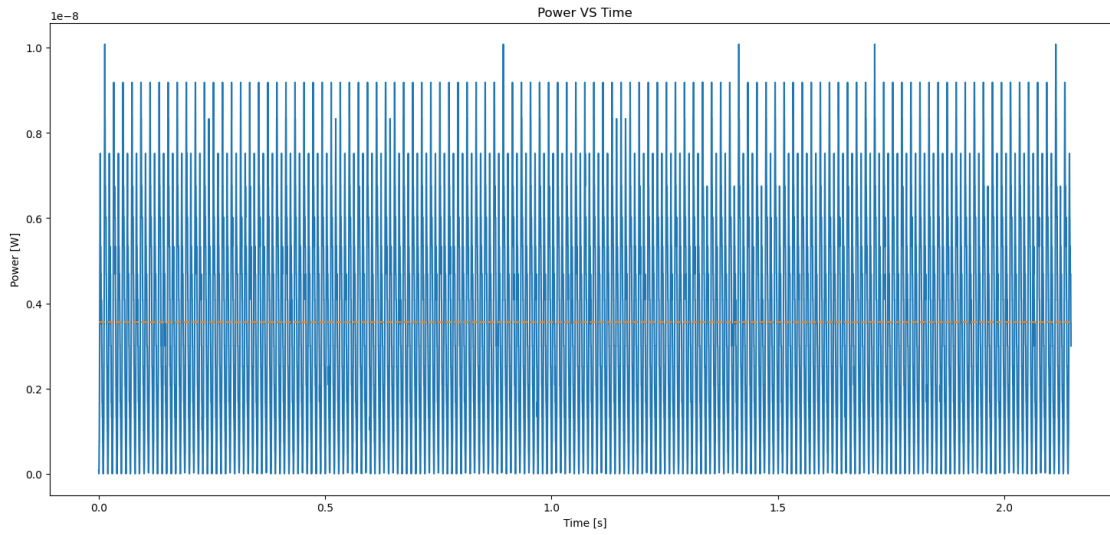


Mean power: 3.56e-09 [W]

# 4 FREQUENCY ANALYSIS
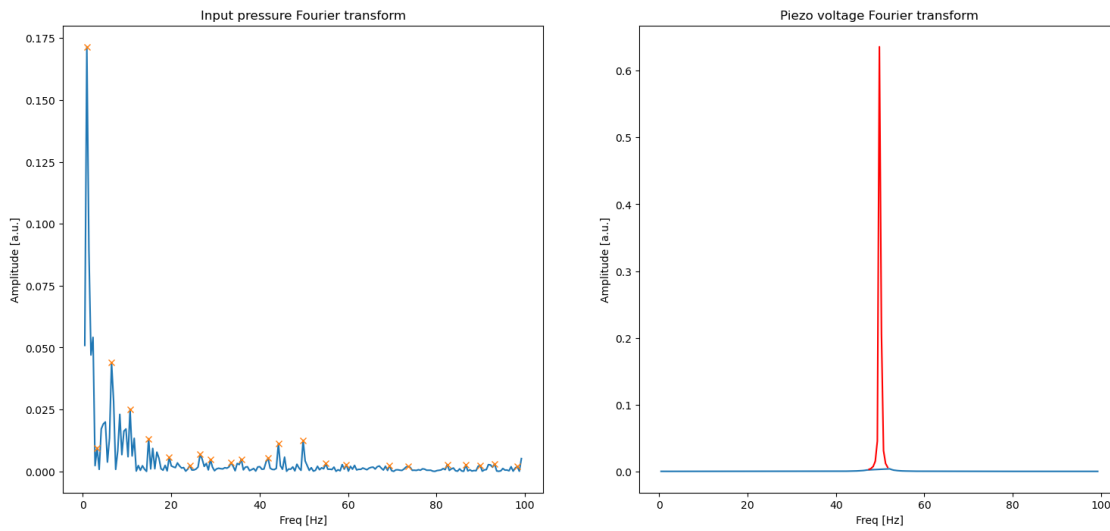


## 4.1 Voltage frequency peaks

Empty DataFrame Columns: Index(['Freq [Hz]', 'Amplitude percentage'], dtype='object') Index: RangeIndex(st

## 4.2 Pressure frequency peaks

|    | Freq [Hz] | Amplitude percentage |
|----|-----------|----------------------|
| 0  | 0.93      | 17.15                |
| 1  | 3.26      | 0.95                 |
| 2  | 6.52      | 4.40                 |
| 3  | 10.71     | 2.51                 |
| 4  | 14.90     | 1.32                 |
| 5  | 19.56     | 0.57                 |
| 6  | 24.22     | 0.24                 |
| 7  | 26.54     | 0.68                 |
| 8  | 28.87     | 0.48                 |
| 9  | 33.53     | 0.35                 |
| 10 | 35.86     | 0.49                 |
| 11 | 41.91     | 0.54                 |
| 12 | 44.24     | 1.12                 |
| 13 | 49.83     | 1.25                 |
| 14 | 54.95     | 0.31                 |
| 15 | 59.61     | 0.28                 |
| 16 | 69.39     | 0.23                 |
| 17 | 73.58     | 0.21                 |
| 18 | 82.43     | 0.28                 |
| 19 | 86.62     | 0.26                 |
| 20 | 89.88     | 0.24                 |
| 21 | 93.14     | 0.30                 |
| 22 | 98.26     | 0.19                 |