Measurements

March 10, 2022

1 PARAMETERS

```
Sample name: ES.PVDF.002
Duration of measurements: 2.15 [s]
Load resistance: 1.00e+05 [Ohms]
Circuit resistance: 2.00e-01 [Ohms]
Number of periods displayed: 3
```

2 PRESSURE AND VOLTAGE MEASUREMENTS

```
The input frequency is: 15.83 Hz
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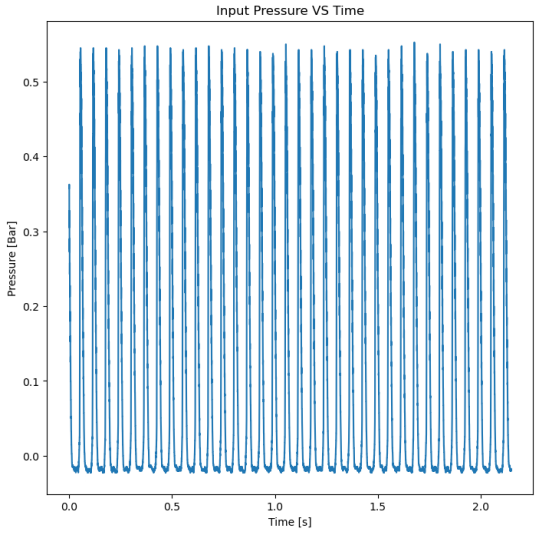

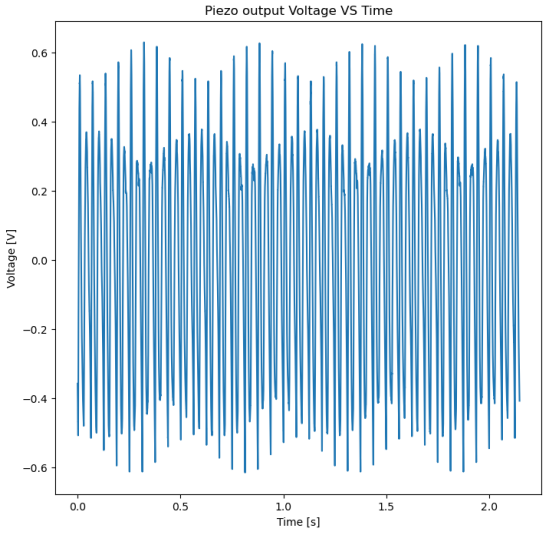


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       -0.015 , -0.015 , -0.0125, -0.0125, -0.015 , -0.0125]), array([-0.0175,
-0.015 , -0.015 , -0.0175, -0.0175, -0.0175, -0.015 ,
       -0.0175, -0.0175, -0.0175, -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.0175, -0.0175]), array([-0.015 ,
-0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.0125,
       -0.0125, -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ]), array([-0.0175,
-0.02  , -0.0175, -0.02  , -0.0175, -0.02  , -0.02  ,
       -0.02  , -0.02  , -0.02  , -0.02  , -0.0175, -0.02  , -0.02  ,
```
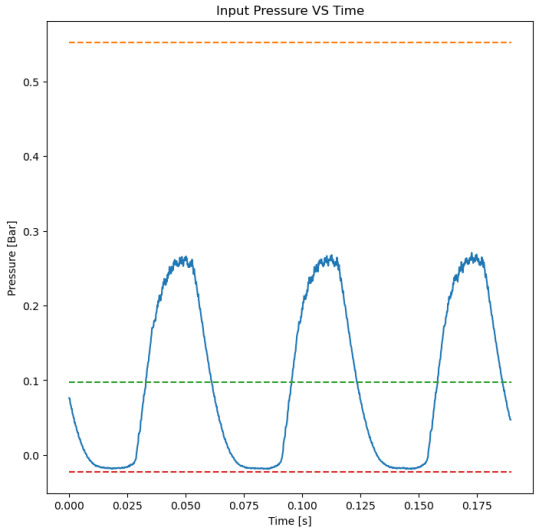
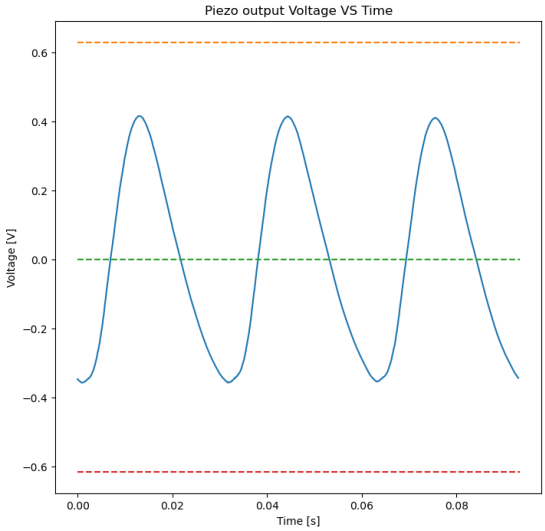

```
       -0.02  , -0.02  , -0.02  , -0.02  , -0.02  , -0.02  ]), array([-0.015 ,
-0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.0175, -0.0175, -0.015 , -0.015 , -0.015 ])]
```





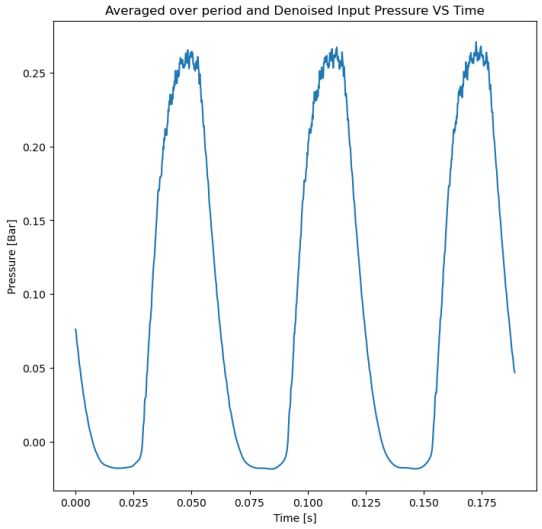

```
Max pressure: 0.55 [Bar]
Min pressure: -0.02 [Bar]
Peak to peak pressure: 0.57 [Bar]
Mean pressure: 0.10 [Bar]
```

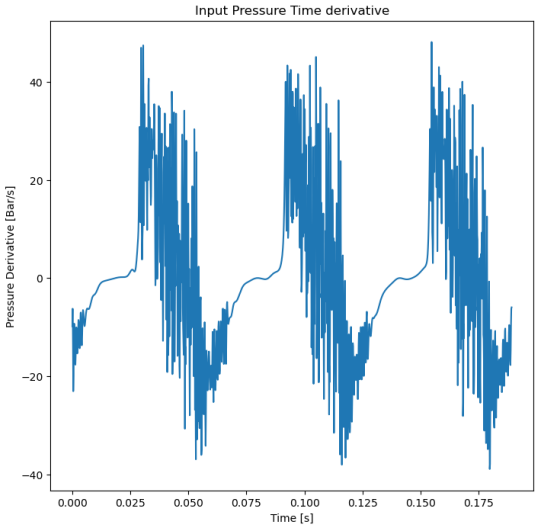
```
Max voltage: 0.63 [V]
Min voltage: -0.61 [V]
Peak to peak voltage: 1.25 [V]
Mean voltage: -0.00 [V]
```

3 PRESSURE DERIVARTIVE

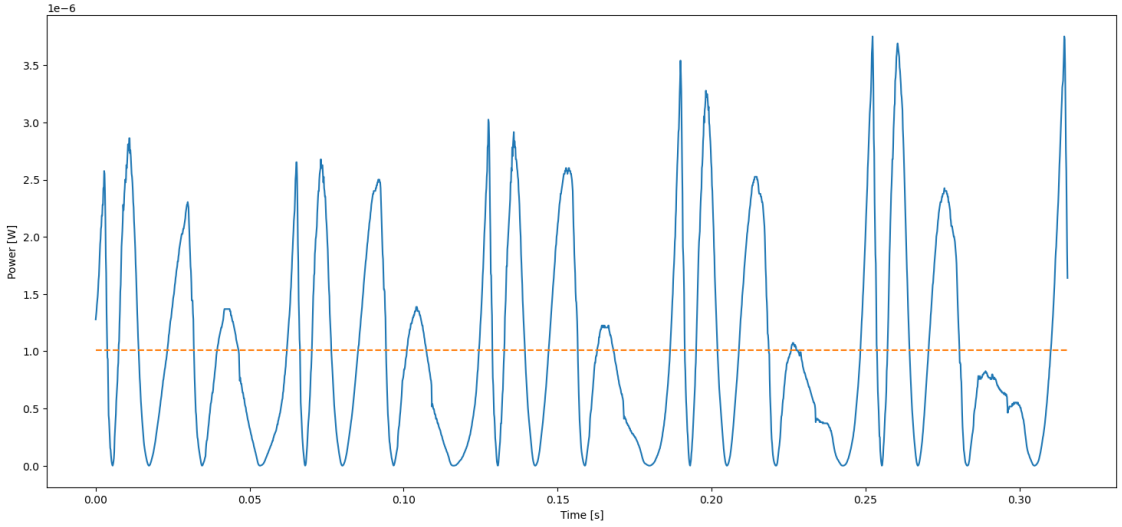
```
[array([0.3575, 0.36  , 0.3625, 0.3175, 0.305 , 0.3125, 0.3175, 0.3225,
       0.325 , 0.3275, 0.28  , 0.2725, 0.2775, 0.285 , 0.2875, 0.29  ,
       0.2875, 0.2425, 0.2425, 0.245 ]), array([0.23  , 0.23  , 0.235 , 0.24  ,
0.2425, 0.2475, 0.2275, 0.2025,
       0.2025, 0.2075, 0.21  , 0.2125, 0.215 , 0.1925, 0.17  , 0.1725,
       0.175 , 0.1775, 0.1825, 0.1825]), array([0.175 , 0.1775, 0.18  , 0.1825,
0.155 , 0.1475, 0.15  , 0.15  ,
       0.15  , 0.1525, 0.155 , 0.125 , 0.1175, 0.1175, 0.1225, 0.1225,
       0.1225, 0.1175, 0.095 , 0.0925]), array([0.1075, 0.0875, 0.0825, 0.0825,
0.085 , 0.0825, 0.085 , 0.0775,
       0.0625, 0.06  , 0.06  , 0.06  , 0.06  , 0.06  , 0.0525, 0.0425,
       0.04  , 0.04  , 0.04  , 0.04  ]), array([0.04  , 0.04  , 0.04  , 0.0375,
```

```
0.0375, 0.0275, 0.0225, 0.0225,
       0.02  , 0.0175, 0.0175, 0.0175, 0.0125, 0.01  , 0.01  , 0.01  ,
       0.0075, 0.005 , 0.005 , 0.0075]), array([ 0.0025,  0.0025,  0.0025,  0.
,  0.    ,  0.    ,  0.    ,
       -0.0025, -0.005 , -0.0075, -0.01  , -0.01  , -0.01  , -0.01  ,
       -0.0125, -0.0125, -0.0125, -0.0125, -0.0125, -0.0125]), array([-0.01  ,
-0.01  , -0.0125, -0.0125, -0.0125, -0.0125, -0.0125,
       -0.0125, -0.0125, -0.0125, -0.0125, -0.0125, -0.0125, -0.0125,
       -0.015 , -0.015 , -0.0125, -0.0125, -0.015 , -0.0125]), array([-0.0175,
-0.015 , -0.015 , -0.0175, -0.0175, -0.0175, -0.015 ,
       -0.0175, -0.0175, -0.0175, -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.0175, -0.0175]), array([-0.015 ,
-0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.0125,
       -0.0125, -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ]), array([-0.0175,
-0.02  , -0.0175, -0.02  , -0.0175, -0.02  , -0.02  ,
       -0.02  , -0.02  , -0.02  , -0.02  , -0.0175, -0.02  , -0.02  ,
       -0.02  , -0.02  , -0.02  , -0.02  , -0.02  , -0.02  ]), array([-0.015 ,
-0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 , -0.015 ,
       -0.015 , -0.0175, -0.0175, -0.015 , -0.015 , -0.015 ])]
```





4 POWER



Mean power: 1.01e-06 [W]

5 FREQUENCY ANALYSIS