

Contents

1	Summary	2
2	Introduction	3
3	Procedure	4
4	Data	6
5	Analysis	7
6	Conclusion	7

1 Summary

State the aims and objectives of the experiment.

Give a brief outline of the experiments you performed.

Summarise the most important results and major findings/trends, expressed quantitatively.

State the major conclusions which can be drawn from the results of the experiment

2 Introduction

Background information on the topic.

State the problem, vision and purpose

status quo, technical problem, competing solution

obstacle, prognosis

background knowledge

3 Procedure

- 1.
- 2.
- 3.

Variables

- Control:
 - Output voltage on function generator: 10V.
 - Probes 180° from each other. Sense leads 30° from the probe and 180° from each other. See Figure 3.
 - Gain $\frac{R_3}{R_2} = \frac{15k}{150} = 100$.
 - Liquid volume 250 ml, 60mm height measured from inside the cup.
- Independent: Frequency.
- Dependent: Voltage peak-to-peak

Considerations Due to a limited power input into the amplifier, a gain ratio of 1000 led to *gain saturation*, where we no longer observed the expected amplification.

Although we define probe orientation, there are two factors we are disregarding: the cup is not perfectly cylindrical, and the leads are not straight – so the distance between electrodes is smaller than what the experimental setup implies.

With gain of 10, the maxima appeared in different frequencies as to those of 100 and 1000. Suspect to be related to the percentage error being too large.

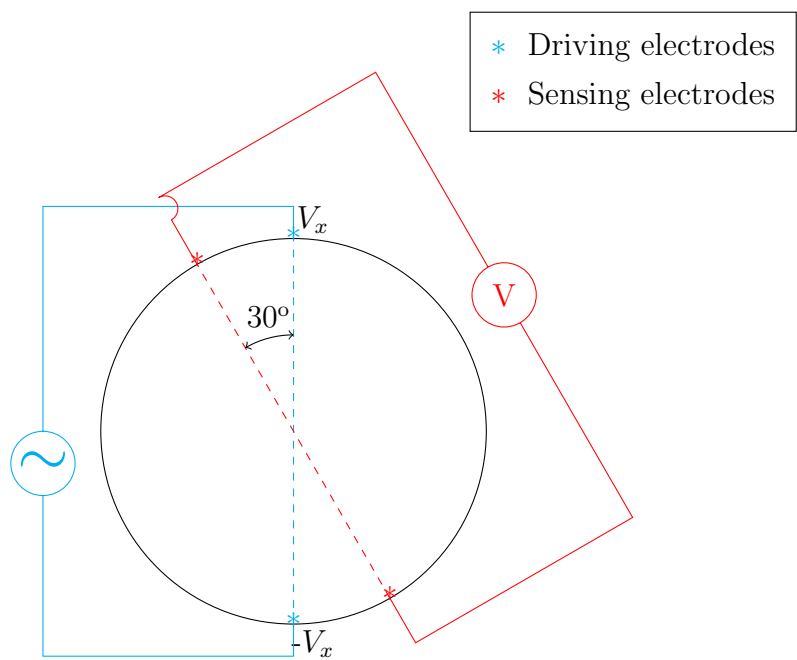


Figure 1: Orientation of electrodes

4 Data

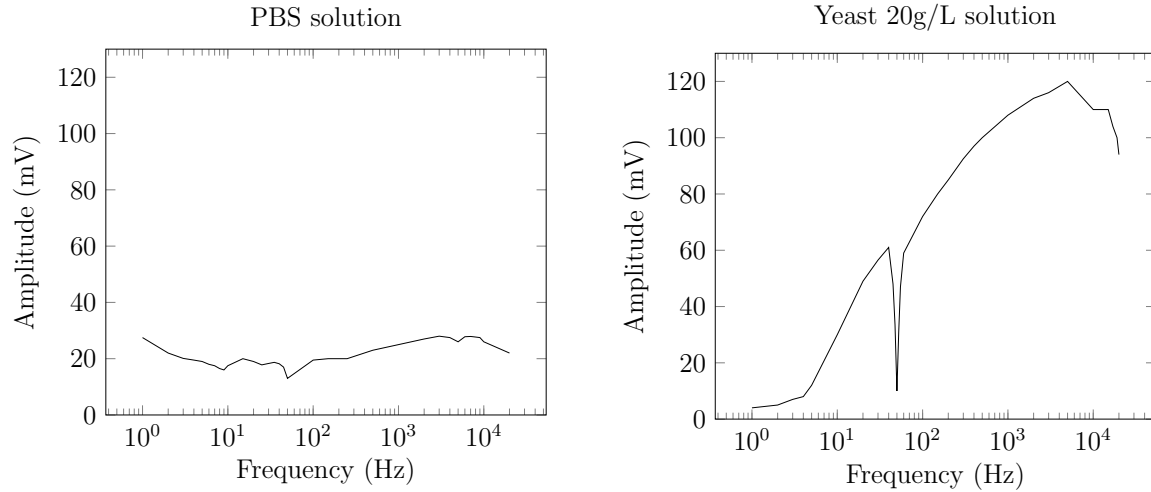


Figure 2: Amplitude based on frequency. Note the dip at 50 Hz due to the filter.

Assess performance of reactor prototype; cell density with final design

Uncertainties Consider trends vs values? Probably most important for the calibration curve.

important comments on results, relate to theory and knowledge

Limitations and improvements

5 Analysis

6 Conclusion