Habib University

iSciM

Fall 2023

ENER 104L RENEWABLE ENERGY

LABORATORY REPORT 1

Global Warming

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1 Objectives

- Understand effect of various factors in our atmosphere.
- Understand that excess CO2 intensif ies the greenhouse effect
- Why is greenhouse effect important and what does it have to do with climate change?
- Does greenhouse gases really make the temperature rise?

2 Abstract

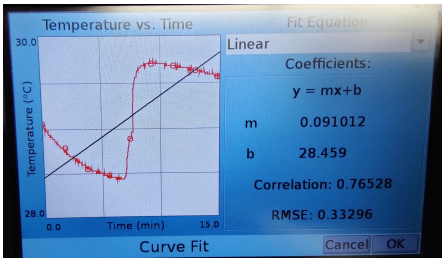
Abstract

3 Result and Analysis

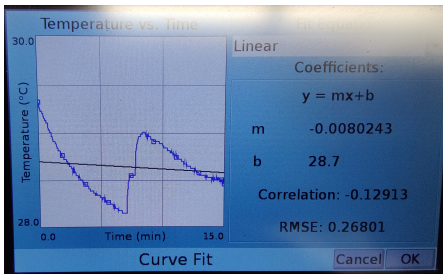
3.1 Part I: The Greenhouse Effect

3.1.1 Temperature Graphs

(a) Combined



(b) Covered Jar



(c) Uncovered Jar

Figure 1: Temperature Graphs

3.1.2 Temperature Table

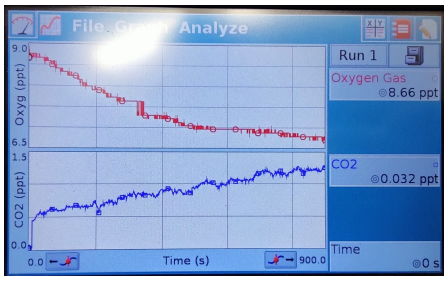
3.2 Part II: Photosynthesis and Respiration

3.2.1 Covered Jar

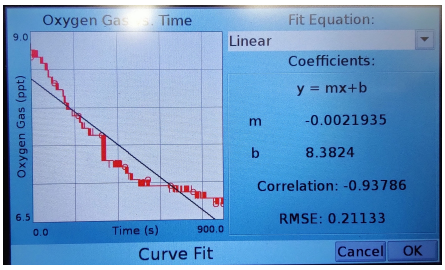
CO2 and O2 Graphs

Table 1: Temperature Table

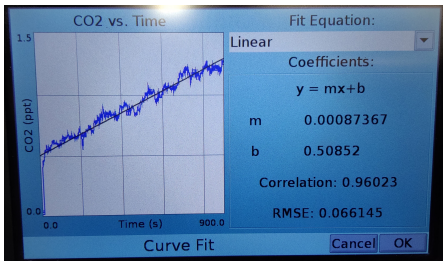
	Covered Jar (°C)	Uncovered Jar (°C)
min	28.4	28.1
max	29.7	29.3
mean	29.1	28.6
st. dev	0.51668	0.26998



(a) CO2 and O2



(b) O2



(c) CO2

Figure 2: Covered Jar

4 Conclusion

abc

5 Questions

	Covered Jar (°C)	Uncovered Jar (°C)
min	28.4	28.1
max	29.7	29.3
mean	29.1	28.6
st. dev	0.51668	0.26998

Table 2: Experimental result for First order low pass filter

Chybovost %				**temp2**
10	10	10	10	10

Table 3: Experimental result for Second order low pass filter

$V_{in}(mV)$	f	$V_2(mV)$	**(I.L)dB**	**Phase (ϕ)**
5760	100 Hz	1190	-13.70	$-5°$
5730	200 Hz	1160	-13.87	$-11°$
5630	500 Hz	1070	-14.42	$-21°$
5320	1 kHz	849	-15.94	$-38°$
4930	2 kHz	560	-18.89	$-65°$
4830	5 kHz	265.1	-25.21	$-74°$
4780	10 kHz	123.86	-31.73	$-77°$
4700	20 kHz	32.55	-43.19	$-79°$
4700	50 kHz	7.7	-55.7	$-83°$
4700	100 kHz	2.29	-63.26	$-85°$