

Habib University

iSciM
Fall 2023



ENER 104L RENEWABLE ENERGY

LABORATORY REPORT 1

Global Warming

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1

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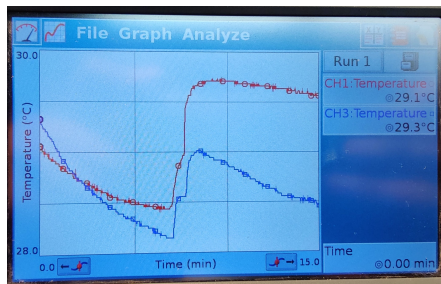
1 Objectives

- Understand effect of various factors in our atmosphere.
- Understand that excess CO₂ intensifies 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?

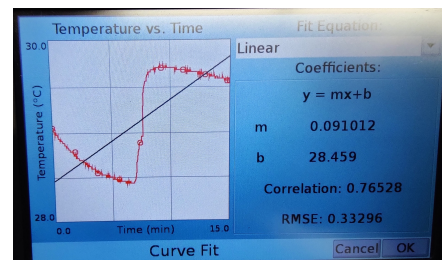
2 Abstract

Abstract

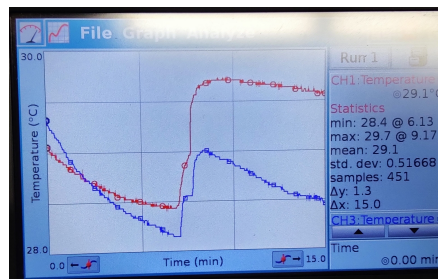
3 Result and Analysis



(a) frequency = 100Hz



(b) frequency = 1kHz



(c) frequency = 10kHz

Figure 1: Signal Transmission Distortion for LPF

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 1: Experimental result for First order low pass filter

Chybovost %				temp2
10	10	10	10	10

Table 2: 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°