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A Dissertation

by

FULL NAME HERE

BS, University Name, Graduation Year
MS, University Name, Graduation Year

Submitted in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in

PROGRAM NAME IN CAPITAL LETTERS

Texas A&M University-Corpus Christi
Corpus Christi, Texas

August 2022

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A Dissertation

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This dissertation meets the standards for scope and quality of
Texas A&M University-Corpus Christi and is hereby approved.

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Committee Member 4 Name, PhD Committee Member	GFR Name, PhD Graduate Faculty Representative

August 2022

ABSTRACT

The abstract should reflect the entire document and summarize the research and findings in your dissertation. If your dissertation includes one or more manuscripts, each manuscript may include a short abstract appropriate for submission with the manuscript. Note that the abstract text is not indented. It is generally one paragraph; however, if additional paragraphs are needed, indentation of subsequent paragraphs should be consistent with style(s) utilized by your discipline and determined in consultation with your chair. Ideally, the abstract will be relatively brief and information dense. The text starts two double spaces below the title ABSTRACT and is double-spaced. There must be no additional space before or after titles and headings. Use the same margin settings and fonts as used in the narrative text. Your abstract should not include formal citations, images, or complex equations. It is up to you, based on guidelines of your discipline and related style guides and in consultation with your chair, to design the contents of the abstract.

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ACKNOWLEDGEMENTS

Place any acknowledgements you have here. Do not forget to acknowledge your funding sources and committee members.

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CHAPTER I: CHAPTER NAME HERE

1.1   Section 1: My First Section

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

1.1.1   Subsection 1: My First Subsection

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

CHAPTER II: MY METHODOLOGY CHAPTER/MY FIRST INDIVIDUAL STUDY

Abstract

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.1   First Section Name

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.2   Second Section Name

2.2.1   First Subsection Name

Here is an example of how to use and reference an equation in LaTeX

Atmospheric refractivity in the lower troposphere is a function of pressure, temperature, and

Figure 2.1
Insert a figure caption here. The TAMUCC horizontal logo with text

moisture. The refractivity profile for each radiosonde can be calculated using Eq. 2.1:

$$N = b_1 \frac{P}{T} + b_2 \frac{P_w}{T^2} \tag{2.1}$$

Use dollar signs to create an in-text math environment to use symbols or detail equation components. For example, I can use $°$ or $±$ like this.

Parenthetical in-text citation example: (Kursinski et al., 1997) Author (Year) format for in-text citations example: Kursinski et al. (1997) The commands take an argument of the label for your reference based on the labels in your reference file.

2.2.2 Second Subsection Name

You can reference the figure, a section, a table, or another labeled object like this: Figure 2.1.

Here is a simple table example:

Table 2.1
Fractional refractivity difference statistics for colocated GNSS RO and dropsonde profiles within various height ranges.

Height Range [km]	COSMIC-1/TCDROPS N-Bias [%]	COSMIC-2/HRD N-Bias [%]
0.2-2	-1.603 ± 0.441	-1.237 ± 0.268
2-5	-0.350 ± 0.119	-0.521 ± 0.177
5-14	0.109 ± 0.117	0.098 ± 0.055
Overall	0.0035 ± 0.120	-0.071 ± 0.222

Here is a more complicated table example:

Table 2.2

As in Table 2.1, but for colocation subsets based on difference in distance between profiles

	Height [km]	COSMIC-1 N-Bias [%]	COSMIC-2 N-Bias [%]
ds <100 km	**0.2-2**	-2.514 ± 0.806	-1.684 ± 0.328
	2-5	-0.177 ± 0.749	-2.355 ± 0.727
	5-14	0.061 ± 0.209	0.732 ± 0.557
	Overall	-0.025 ± 0.301	0.073 ± 1.456
100 km <ds <200 km	**0.2-2**	-1.171 ± 0.592	-1.056 ± 0.277
	2-5	0.078 ± 0.211	-0.012 ± 0.277
	5-14	0.158 ± 0.117	0.036 ± 0.067
	Overall	0.133 ± 0.171	0.009 ± 0.137
ds >200 km	**0.2-2**	-1.785 ± 0.307	-1.337 ± 0.352
	2-5	-0.641 ± 0.185	-0.665 ± 0.235
	5-14	0.087 ± 0.092	0.995 ± 0.067
	Overall	-0.035 ± 0.218	-0.084 ± 0.249

CHAPTER III: MY THIRD CHAPTER

Abstract

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

3.1   First Section Name

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

3.2   Second Section Name

3.2.1   First Subsection Name

3.2.1.1   First Subsubsection Name

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words

should match the language.

CHAPTER IV: MY FOURTH CHAPTER

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Appendix A: Appendix within a Chapter

This is my in-chapter appendix.

CHAPTER V: SUMMARY AND CONCLUSIONS

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

REFERENCES

Kursinski, E. R., Hajj, G. A., Schofield, J. T., Linfield, R. P., & Hardy, K. R. (1997). Observing earth's atmosphere with radio occultation measurements using the global positioning system [Journal Article]. *Journal of Geophysical Research: Atmospheres*, *102*(D19), 23429-23465. doi: doi:10.1029/97jd01569

APPENDIX A:

PYTHON CODE

```python
#!/usr/bin/env python
# Written by Kevin Nelson @ TAMUCC for Dissertation research, used as example
# code in LaTeX reformatting process. Code downloads daily ERA5 model level
# atmospheric reanalysis data.


import cdsapi
import time
import sys
import urllib3
import calendar
import numpy as np


# Suppress insecure request warnings
urllib3.disable_warnings(urllib3.exceptions.InsecureRequestWarning)


# Set the start time
stime = time.time()


# Start the CDS API client
c = cdsapi.Client()


# Set format, grid, and area for downloaded files
output_format = 'netcdf'
output_grid = '0.25/0.25'
output_area = '90.0/-180.0/-90.0/180.0' # North/West/South/East
save_path = '/cloud/data/model/era5/split_files/ml_hires/'


# Loop over each day of month to get daily files
year = '2007'
for month in ['10','11','12']:
```

```python
ndays = calendar.monthrange(int(year), int(month))[1]
day_range = np.arange(0, ndays)+1
if month == '10':
    day_range = np.arange(10, ndays)+1
for dd in day_range:
    if dd < 10:
        dtg = year + '-' + month + '-0' + str(dd)
    else:
        dtg = year + '-' + month + '-' + str(dd)
    if dtg=='2020-08-20':
        continue
    era5_output_name = save_path + 'era5_hires_' + dtg + '.ncdf'
    era5_mars_call = {
        'area':output_area,
        'class':'ea',
        'date':dtg,
        'expver':'1',
        'format':output_format,
        'grid':output_grid,
        'levelist':'1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16/17/18/19/' + \
            '20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/' + \
            '39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/' + \
            '58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/' + \
            '77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/' + \
            '96/97/98/99/100/101/102/103/104/105/106/107/108/109/110/' + \
            '111/112/113/114/115/116/117/118/119/120/121/122/123/124/' + \
            '125/126/127/128/129/130/131/132/133/134/135/136/137',
        'levtype':'ml',
        'param':'75/76/129/130/131/132/133/135/138/152/155/246/247/248',
        'stream':'oper',
        'time':'00:00:00/03:00:00/06:00:00/09:00:00/12:00:00/' + \
            '15:00:00/18:00:00/21:00:00',
        'type': 'an'}
```

```python
        c.retrieve('reanalysis-era5-complete', era5_mars_call, \
            era5_output_name)


# Calculate overall timer
end_time = time.time()
print('###_All_ERA5_data_for_' + year + '_downloaded_in:_' + \
    str((end_time-stime)/3600.) + '_hours._###')
```