

PHY 2505S
ATMOSPHERIC RADIATIVE TRANSFER AND REMOTE SOUNDING
Spring Term, 2020
TERM PAPER, OUTLINE and PRESENTATION

For your term paper and presentation, the topic is to be a current/recent remote sounding mission (or instrument) and selected atmospheric phenomenon or topic that the mission has been used to investigate. Approximately half of the paper should focus on the measurements made by the mission/instrument, including the technique and dataset obtained, and half should focus on a synthesis of selected scientific results on a particular atmospheric theme. The topic should be related (in some way) to the content of this course. Please discuss your topic with me before you start your research/outline and choose a mission or instrument by Friday, February 14. Note, you cannot write your term paper on a topic that is part of your research for your degree or for another course.

THE OUTLINE/ANNOTATED BIBLIOGRAPHY:

DUE: Tuesday, 10 March 2020, in class

MARKS: 5% of course total (5 marks)

LATE POLICY: One mark will be deducted for each day that this work is delayed, up to five days.

The outline/bibliography will have two parts and should be no more than 3-4 pages long. The outline part will briefly describe the contents of both parts of your paper including the scientific results to be discussed. This must be done in paragraph style, not point form. The second part is the annotated bibliography, a list of the main references to be used. Primarily, journal articles should be used as sources for the term paper (rather than websites). Full citations must be given for these references as well as a short description of their contents and what they will contribute to the paper.

THE TERM PAPER:

DUE: Monday, 14 April 2020, by 12 PM

MARKS: 15% of course total

LATE POLICY: Papers will not be accepted after the due date.

The term paper should be 10-12 pages long, not including figures, tables and appendices. Each 8.5 x 11 inch page should be double spaced (at 25-30 lines per page) with 1-inch margins. Papers must be provided in 12-point type and figures included where needed to support the description and discussion in the paper. Primarily, marks will be given for content however some marks will be given for presentation, style and grammar. Your paper must synthesize and discuss the results of your research, not simply repeat information taken from these papers. See the marking rubric below.

All references should be noted in the text where needed and a complete list provided at the end of the term paper. Original sources should be used rather than the world-wide web (though the web can be very useful for looking up materials). Copying material directly from other sources (on the web or in print) is plagiarism and is not acceptable.

THE PRESENTATION:

DATE: Wednesday, 15 April 2020 (date and time TBC)

MARKS: 10 % of course total

It is important for researchers to be able to present their work clearly both in verbal and written form. Each class member will make a 15-minute presentation on their topic to the class. An additional 5 minutes will be included for questions. Marks will be given for content, presentation, clarity and responses to questions. The talk should cover all of the main points covered in your term paper.

TERM PAPER MARKING RUBRIC:

The marking scheme that will be used to mark your term paper will follow the categories listed in the table below. In addition, here are some points that you should consider in writing your term paper.

- Since this paper is a significant component of your mark, the expectations are fairly high. Please take careful note of how the marks are broken down.
- Remember that this paper is focusing on a recent remote sounding satellite mission/instrument and selected scientific studies on a particular theme from this mission. The measurement technique and data products retrieved from the satellite measurements are only part of the focus here. You should be exploring how these have been used to investigate a selected atmospheric phenomenon or topic.
- Careful proof-reading of your papers is important. This helps to improve the quality of your writing and overall impression. Do this yourself or get a friend to help you!

Criterion (weighting)	Items that will be taken into account
Content (20)	<p>Appropriate focus for paper:</p> <ul style="list-style-type: none">• Half of paper on mission/instrument – including its measurement technique, type of measurements made, instrumentation, satellite orbit details, retrieval techniques used, validation of results, etc.• Half of paper on synthesis of scientific results – this should focus on what was learned about the atmosphere from these measurements / retrievals / observations (all relating to a particular theme)• Does the paper achieve an appropriate balance between these components? Does one part of the paper overshadow the other? <p>Appropriate level of detail</p> <ul style="list-style-type: none">• Is the discussion of the instrument and results at a sufficient depth? Is it well researched and demonstrates an understanding of the mission/instrument and some scientific results from the mission? <p>Synthesis of information</p> <ul style="list-style-type: none">• Does the paper draw together information from different sources to provide a coherent discussion of the mission and results or does the paper just paraphrase or repeat material from other sources?
Writing (5)	<ul style="list-style-type: none">• Does the paper flow? It is presented logically? Are there issues with grammar, punctuation and spelling?
Figures and Formatting (3)	<ul style="list-style-type: none">• Are appropriate figures used to illustrate the material in the paper? Are figures reproduced with good clarity (and citations)?• Did the paper fall within the length restriction? Is the format as required in the assignment handout (margins, font size)?
Reference Usage (2)	<ul style="list-style-type: none">• Are appropriate sources used? Are a number of sources used or just a few? Does the paper rely heavily on web resources?• Are appropriate citations given to references for material and figures? Are passages put into the author's own words and not directly copied without credit (e.g. plagiarized)?• Is a reference list given with consistent citation formatting?