EAS 535 TERM PAPER
Atmospheric Observations and Measurements

Subject matter: Choose an instrument from the IHOP campaign
www.atd.ucar.edu/dir_off/projects/2002/IHOP.html

Title and photocopies of 3 peer-reviewed papers Due: Oct 2

Outline Draft Due: Nov 1

Paper due: Nov 27

Presentation due: Dec 4 or Dec 5 or Dec 6

Suggested Length: 10-15 double spaced pages

Figures: where necessary to explain your point

Citations: at least 5 (at least 3 articles MUST be from peer-reviewed journals, others can be conference proceedings, book chapters, technical reports, etc., web documents will not be counted in the 5, but should be listed whenever they are used)

Literature sources: EAS and Engineering libraries. Primary sources should be peer reviewed journal articles. Web of science is the recommended database to search for journal articles. These can be found through the Purdue Library web site http://www.lib.purdue.edu/ then choosing article databases => web of science. Peer reviewed means that independent scientists reviewed the article and approved it before it was published. This is in contrast to documents published on the web which obviously are not required to be checked for accuracy.

Guide for Outline Draft
(you must turn in one further level in the outline that is specific to your instrument)

Abstract (1 pt)
Theoretical description (1 pt)
   Explanation of theory behind measurement with equations
Technical description (2 pts)
   Explanation of the components and how it is designed (1 pt)
   Fig – instrument model flow chart (you can make your own)
   Fig – descriptive schema for how the instrument should be deployed
   Fig – photo of instrument
   Table of specifications (1 pt) including accuracy and resolution of instrument
Implementation (1 pt)
   Example deployment of instrument in published literature
   Results of previous study
   Demonstrated accuracy
Role of instrument in IHOP (1 pt)
Contribution to each of 4 IHOP objectives that are relevant

Data description (1 pt)
Table of data parameters collected by instrument during IHOP
General description of data
  Raw data
  Final products

Data Example (1 pt)
  exact description of data from one particular event during IHOP
Fig - example of retrieved data (1 pt)
Illustration of accuracy
  compare to data from another type of instrument (1 pt)
Fig – other instrument data (1 pt)
Fig – comparison figure

Discussion
  Any problems or notes of interest during experiment

Conclusions (2 pt)
  Accuracy achieved
  Ability to contribute to objectives - your opinion, but supported by facts

References (at least 5) (1 pt)
  At least 3 published peer reviewed papers (3 pts)
    1) theory behind measurements
    2) instrument description
    3) previous application of instrument to meteorological campaign
Conference proceedings, book chapters, technical reports

Neatness and clarity (1 pt)

Web pages may be (and should be!) used to track down author names and publications for bibliographic search.
Avoid emails to IHOP researchers unless you have read one of their journal articles first.
All figures taken from web must have exact web link and name credit.
All figures taken from a publication must have exact reference credit.
Reference credits should be listed for sources of information throughout the text where appropriate, for example in the form (Parsons and Weckwerth, 2002), with the complete citation provided in the reference section at the end of the paper.
(-1/2 point for any figure or text without proper scientific attribution)
Make an effort to summarize the text that you read in your own words, however if you must include text directly from a source, then it must be in quotation marks.
All figures must have a complete description of axes, units, scales, and all symbols.

Presentation
Should be 15 minutes long, and prepared in powerpoint or similar electronic software so it can be projected onto screen. Proper attribution is required throughout the presentation, the same as for the term paper.