Analysis Methods in Atmospheric and Oceanic Science

AOSC 652

Class Projects

Week 14, Day 3

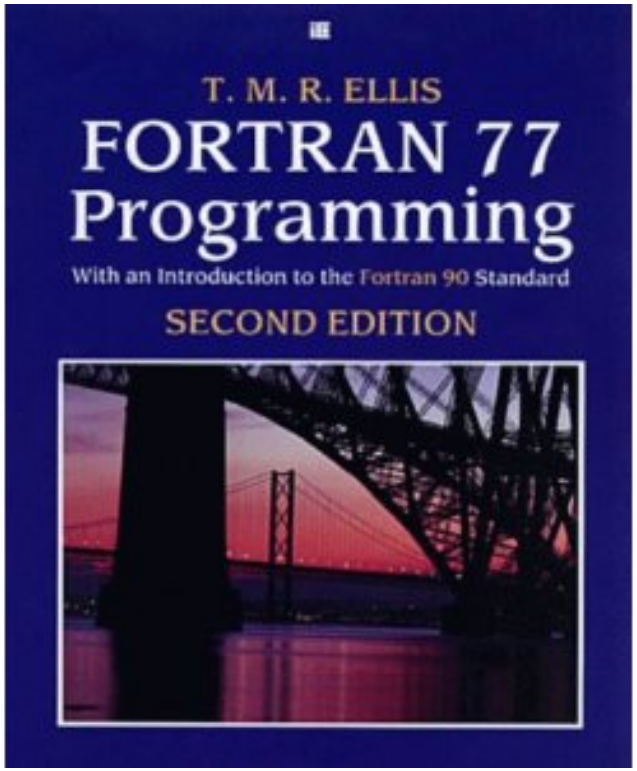
2 Dec 2016

AOSC 652: Analysis Methods in AOSC

Logistics

FORTRAN Book:

- Would like to start getting returns of Ellis book
- $20 to be refunded upon return of book



AOSC 652: Analysis Methods in AOSC

Student projects (update to slide first shown 10 Oct 2016):

- 20% of the final grade: you will receive a numerical score for the project and final grade will be found via:

  Final Grade = (0.1)×(Attendance + Participation) + (0.7)×(Homework) + (0.2)×(Final Project)

- 28, 30 Nov, 2 Dec (MWF) + 5, 7, 9 Dec (MWF) set aside for "in class" work on your project
- **Mon,19 Dec, noon**: ***students present their project (10 minute talks)*** prepared using either Powerpoint, Open Office, etc and converted to PDF prior to the start of class
- Each student must turn in a *brief* written description of the project as well as all *code* used to complete the project
- Good to begin thinking about your project: application of techniques learned in class to a ***scientific problem of your interest***
- I am available to discuss "issues" with project, by appointment please!

AOSC 652: Analysis Methods in AOSC

Project presentations will be 19 Dec starting at noon:

- Each presentation maximum 10 minutes
- For a 10 minute presentation, best to focus on:
  what you did & ***what you learned***
  rather than spending much time on
  why you did what,
  summary of state of knowledge on the subject matter,
  etc
- Suggest 8 to 10 slides; any presentation w/ more than 10 slides *must be cleared with me prior to presentation*
- We'll ask for questions after each presentation
- $\{15 \times (10 + 2 + 1)\} / 60 = 3.25$ hrs

AOSC 652: Analysis Methods in AOSC

Project presentations will be19 Dec starting at noon:

- Each presentation maximum 10 minutes
- For a 10 minute presentation, best to focus on:
  what you did & ***what you learned***
  rather than spending much time on
  why you did what,
  summary of state of knowledge on the subject matter,
  etc
- Suggest 8 to 10 slides; any presentation w/ more than 10 slides *must be cleared with me prior to presentation*
- We'll ask for questions after each presentation
- $\{15 \times (10 + 2 + 1)\} / 60 = 3.25$ hrs which is why we are limiting presentations to 10 mins time

AOSC 652: Analysis Methods in AOSC

Student project description:

- In addition to your presentation, please turn in a ***BRIEF*** written description of your project no later than ***noon , Dec 19***:

  1 to at most 2 page, typed, description of your project focusing on:

  a) scientific problem that was studied (1 paragraph)
  b) software and/or analysis tools that were used (1 paragraph)
  c) what was learned in the analysis (2 to 3 paragraphs)

  No need for figures or extensive use of citations in this written description

- Code – or – URL pointing to code

AOSC 652: Analysis Methods in AOSC

Student project timeline:

9 Dec is nine days from now

Suggest the following timeline:

- Today: If looking at data, it is on our system and can be read.
  If working with a new model, it is on our system and compiled.
  Jeff: Python assistance
  Tim: IDL assistance
  Walt: MATLAB assistance
  Ross: FORTRAN assistance & general issues
- Friday: **Preliminary results (i.e., <u>some graphs</u>) ready to show us**
- Next Mon (Dec 5): Final graphs complete
- Next Wed (Dec 7): Draft presentations available for discussion

AOSC 652: Analysis Methods in AOSC

Student project timeline:

9 Dec is nine days from now

Suggest the following timeline:

- Today: If looking at data, it is on our system and can be read.
  If working with a new model, it is on our system and compiled.
  Jeff: Python assistance
  Tim: IDL assistance
  Walt: MATLAB assistance
  Ross: FORTRAN assistance & general issues
- ~~Friday: **Preliminary results (i.e., some graphs) ready to show us**~~
- Next Mon (Dec 5): **Preliminary results (i.e., some graphs) ready to show**
- Next Wed (Dec 7): **Some visuals ESSENTIAL**
- Next Fri (Dec 9): **Final chance to interact with Ross, Tim & Walt prior to AGU**
- Dec 9 to 18: **Ross, Tim, Walt: email Jeff: by appointment**

AOSC 652: Analysis Methods in AOSC

Course Evaluation

To complete:

https://courseevalum.umd.edu/

Description:

https://www.irpa.umd.edu/Assessment/CourseEval/CourseEval.html

Open until 13 December (11:59 pm)

– **Please complete for this class**

AOSC 652: Analysis Methods in AOSC

Course Evaluation

To complete:

https://courseevalum.umd.edu/

Description:

https://www.irpa.umd.edu/Assessment/CourseEval/CourseEval.html

Open until 13 December (11:59 pm)

- **Please complete for this class**
- **As well as all other classes**
- **Please also enter written comments: these are read by a a surprisingly large cadre of people and this is the most effective way for you to provide feedback !**

AOSC 652: Analysis Methods in AOSC

Student	Topic	Data Files or Model Desc
Chang, Chu-Chan	Observation operator, variational system	Model: F90
Eure, Keenan	Palmer experiment, chaos theory	Model: inherited code
Fedkin, Nikita	Sulfate & nitrate deposition trends	Data Files: SO_2 & NO_2
Fricke, Patty	Cyclogenesis on ozone	Data Files: Ozone & Winds
Gohil, Kanisk	SLP & SST during ENSO	Data Files: SLP & SST
Jeffrey, Dylan	Thermal Structure, freezing rain	Data Files: METAR Obs
Kahn, Doug	Off-shore thunderstorm characterization	Data Files: lightning, CAPE, etc
McBride, Laura	Global snow cover, 2000 to 2016	Data Files: Snow & Ice Data Ctr
Malloy, Kelsey	Stratospheric Air Intrusions	Data Files: O3, humidity
Ortiz, Alex	Renewable Energy	Data Files: irrad, wind speed, etc
Porter, Greg	500 mb blocking events for forecasting	Data Files & Project Scope
Sengupta, Agniv	Periodicity of AMO	Data Files & Method to Detrend AMO
Treacy, Angie	Population model	Model: HANDY & visualizations
Varada, Sai	NO_x and VOC emissions	Visualizations
Williams, Matt	Global warming hole, U.S.	Data Files: Num of centers & lapse rate