

Global Seismology
CERI 7105/8105
Term Project
Fall 2018

The term project can consist of collection and analysis of seismic data, development of mathematical theory, or a demonstration of theory through a computational study. The choice of topic can come from the class notes, your ideas, or something that you have seen in the literature. The project must be more than a simple literature search and writing of a term paper.

Examples:

1. Computation of travel times using ray theory in vertically inhomogeneous media
2. Visualization of Moment Tensor Radiation Patterns
3. Visualization of Moment Tensor models using Lunes
4. Wave Tunneling effects in plane layered media
5. Modeling teleseismic body waves for source parameters
6. Source multiplets in deep earthquakes
7. Computation of kinematic rupture models for earthquakes
8. Computation of stress from strain observations
9. Array seismology
10. Visualizing 3D whole Earth velocity models
11. Receiver function methods with data analysis
12. Observing the free oscillations of the Earth using seismic data
13. Surface wave dispersion measurements of an area using seismic data
14. Local earthquake waveforms – what is source, what is structure?

Please run your idea by me if you have a question.

1) Class presentation - Wednesday, 5 December. Each student will give a 15 minute presentation on this date. Please prepare a Powerpoint-type presentation of not more than 15 slides to be shown in class.

2) Final Paper due Wednesday 5 December.

3) Final Exam is Wednesday, December 12th, 10:00AM-12:00noon (University Schedule).

4) The written report will be typed, 21 pages maximum, in 12 point font, 1 and ½ line spacing. Outlines will not be accepted. Please be familiar with policy on plagiarism. The report format will follow standard scientific publication format:

Title Page (1 page)

Abstract (1 page, 250 words maximum)

Introduction

Main Body (e.g., “Data”, “Theory”, “Data Analysis”, etc.)

Discussion

Conclusions

Acknowledgements

References

Tables (may be within the text or at the end)

Figures with captions (may be within the text or at the end)