### Mentee Information

Name: Alan Yang  
NetID: asyang2  
Email: asyang2@illinois.edu  
Year (F, S, J, Sr): F  
Major: Electrical Engineering  
Date: 9/29/2015

### Mentor Information

Name: Matthew Grawe  
NetID: grawe2  
Email: grawe2@illinois.edu  
Department: Remote Sensing and Space Science  
Faculty Advisor: Johnathan J. Makela  
Date: 9/29/2015

### Fall 2015 Research Plan

1) Write a brief outline of your research plan:

Automated Processing of Total Electron Content (apTEC) is a software package being developed that processes data from GPS receiver networks. My goal within this project is to create a system that uses the calculated TEC in the atmosphere to detect perturbations induced by internal gravity waves. This could potentially lead to an improved tsunami prediction system; it has already been shown that ripples in atmospheric TEC correlates with large ocean waves.

2) What do you hope to learn and achieve by the end of the semester?

By the end of the semester, I hope to have gained real experience working with signal processing, since the main goal of the research is to develop a system to recognize gravity wave signals within all of the GPS data collected. In addition, I hope to have gained greater experience writing in Python.

### Signatures

**Mentee Signature:** Alan Yang  
**Date:** 9/29/2015

**Mentor Signature:**  
**Date:** 9/29/2015