

EE 491 Weekly Report

MAY15-29 Week 8 (10/21/14-10/27/14)

Advisors: Meng Lu **Client:**

Members (roles): Wenbing Ma (coding) , Jiangxiang Zhang(sensor design), Xuan Zhang (Webmaster) , Zhikai Cui (Leader), Chenyin Liu(sample holder design)

Project Title: A high resolution two-dimensional ultrasonic detector using plasmonic crystals

Weekly Summary :

Members did each part for their own. We also have a group meeting. Members attend some design and manufacturing some new fancy stuff. The website, the camera holder and new sample holder. The website part is done, and we will post it on iastate website, also we can designing the camera holder, which will be used with an Iphone App for this project.

Meeting notes:

10/25 Group Meeting with Advisor

Duration: 60min

Members Present: All

Purpose and Goals:

1. To design the holder for sample, members go to machine shop to talk this with Lee. We get some ideas and will try it.
2. The website will be posted online. We have already upload most of our documents.
3. The camera holder is under design, this holder will be printed by 3D printer.
4. The IOS app is under design, this app is a part of CCD camera.
5. Once the DAQ device arrives,
6. we are now forcing on testing and learning how to use DAQ properly.

Achievements:

1. **The 3D diagram of the setup with bifurcated fiber has been finished. A few adjustments and text label are needed to make in order to get a better visual performance for demonstration.**
2. **The setup with bifurcated fiber (1 input -> 2 outputs with a black jack) is almost complete. A few adjustments are needed to make.**
3. **Finish reading of datasheet and user manual of DAQ**
4. **Finish watching the tutorial of DAQ especially the universal library(I/O Library for Measurement Computing Data Acquisition Products).**

Pending issues

1. We need to connect the power source with acoustic wave transducer.
2. Still waiting for Lee.
3. The decision of how to choose the laser diode has been made yet. The size of the laser and its parameter of wavelength may consider based on the performance of our sensor.
4. waiting for the DAQ

Plans for next week

Wenbing Ma & Zhikai Cui

- Say goodbye to the previous designed labview code.
- Take a outlook on the instructions of DAQ (National Instruments)
- Starting to write C-code for DAQ to connect with Oscilloscope and motorized stage.
- Three elements to learn about DAQ: User Manual, Product Data sheet, and Universal Libraries computing language

Jiangxiang Zhang

- Working how to set up the laser diode based on the testing results of sensor.
- Finish the diagram of the setup completely.

Xuan Zhang & Chenyin Liu

- Continue on optical equipment set up.
- Learn to design APP.
- Modify our website.
- Modify our documentation.
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Individual Contributions (this week)

- Wenbing Ma attended the meeting(1hr), study datasheet and user manual of DAQ(3.5hr), watching the tutorial of DAQ especially the universal library and start to code with universal library(9hr)
- Jianxiang Zhang attended the meeting(1hr), finished the setup with bifurcated fiber and the 3D diagram of setup. (15hr)
- Xuan Zhang attended the meeting.(1hr) Use PHPMyadmin to upload the website online (2.5hr). Design the holder for sample,graphic,discussion(5 hrs) Learn to design APP.(2hr)
- Zhikai Cui attended the individual meeting (1hr), designed a the motorized stage and return its position.(6hr) Planning to figure out a power outlet on a circuit board (3hr).
- Chenyin Liu attended the meeting.(1hr) Use php myadmin to upload the website online (2.5hr). Design the holder for sample,graphic,discussion(5 hrs) Learn to design APP.(2hr)

Total contributions for the project

Wenbing Ma (13.5hr)

Jiangxiang Zhang (15hr)

Xuan Zhang (10.5hr)

Zhikai Cui (10hr)

Chenyin Liu (10.5hr)