

EE 492 Weekly Report 5

MAY15-29 Week 9&10 3/9/2015 - 3/22/2015

Advisors: Meng Lu **Client:**

Members (roles): Wenbing Ma(Detection Part), Xuan Zhang (Detection Part, Webmaster) , Zhikai Cui (Leader, Detection Part), Chenyin Liu(Generation Part, Documentation), Jiangxiang Zhang (Generation Part)

Project Title: Ultrasonic detector using photonic crystals

Meeting notes:

3/11 & 3/18 Group Meeting with Advisor Dr. Lu Meng

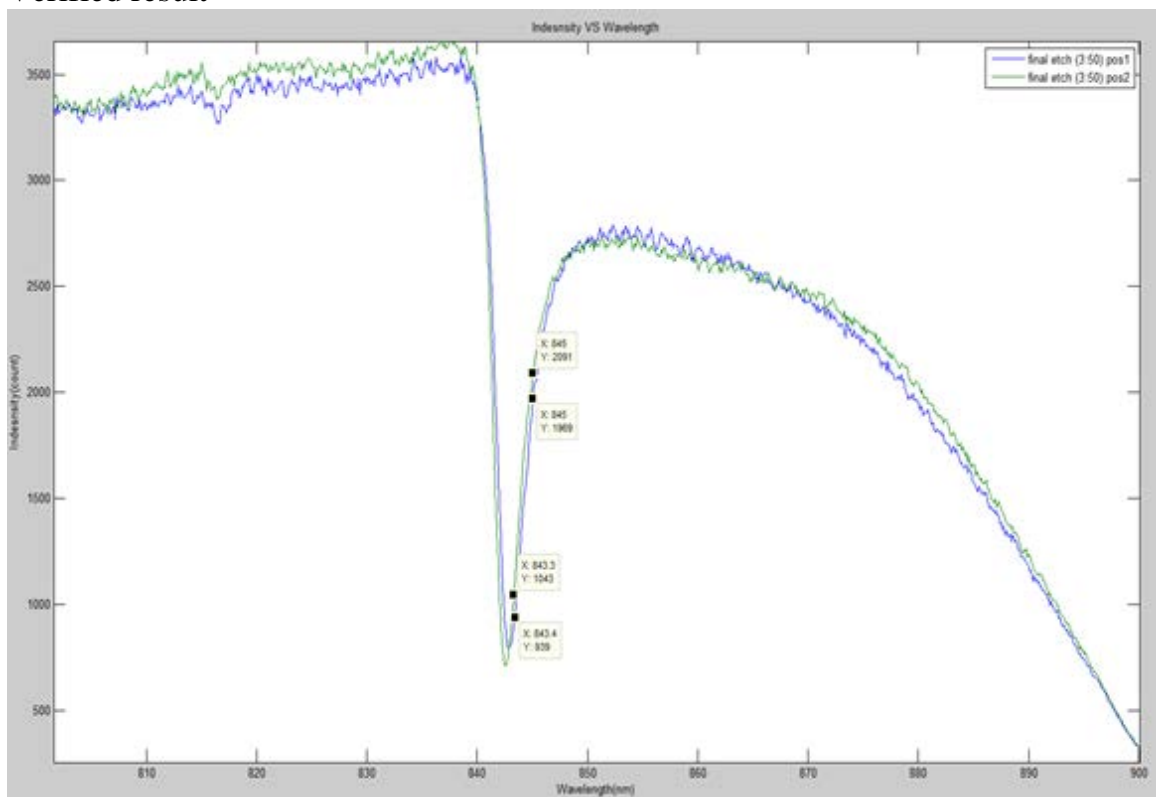
Duration: 60min

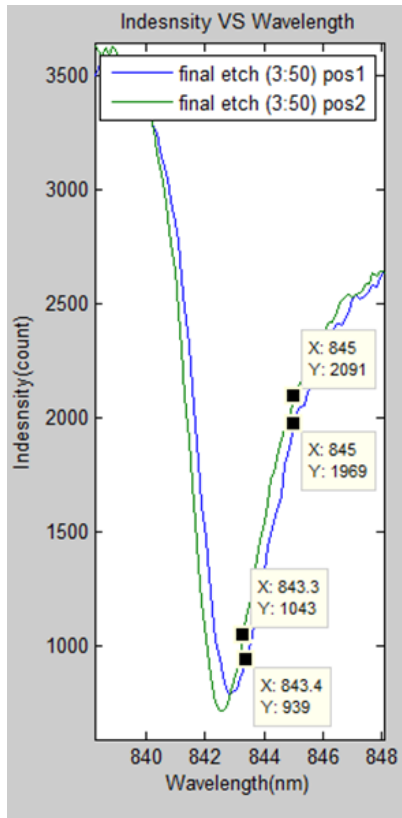
Members Present: All

Purpose and Goals:

1. Members verify the result, and we simulate the result on Matlab.

Verified result

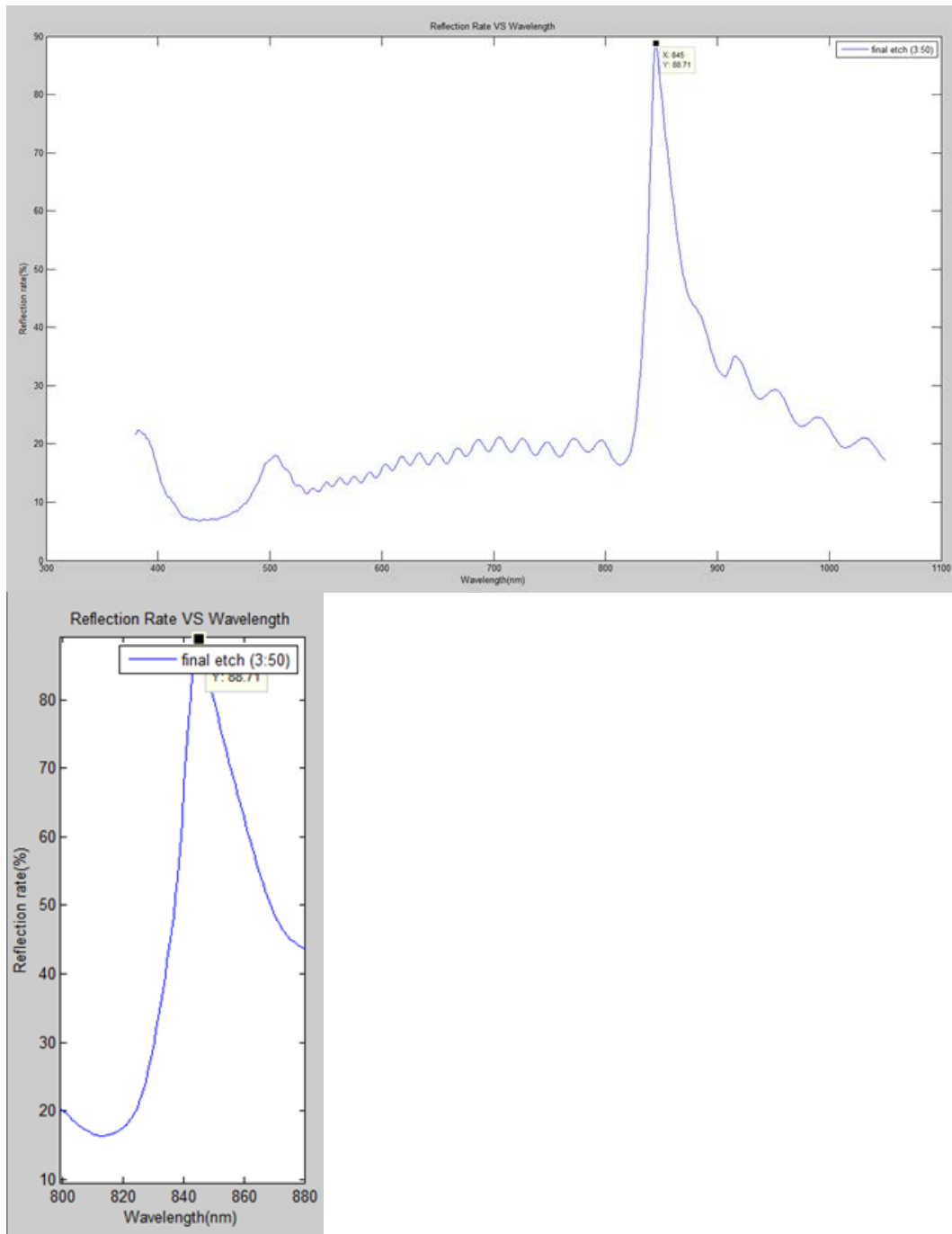




2. Members get the based the sensor from 40KHz transducer.



3. Members made an advanced PC-structure.



Achievements:

1. Members checked that the result match the theory.
2. Members get the break.
3. We got the waveform for the 40k Hz acoustic wave transducer as reference.

Pending issues

1. The oscilloscope is not pretty well for the detection results. We may use an update one later.
2. Cannot make sure that the best waveform is generated by resonance. It may be caused by the oscillation from the sample holder since it may be not robust enough.

Plans for next week

1. We will make sure the setup and robust for the sample holder.
2. We will change the oscilloscope.
3. Will use the results to compare with the reference waveform to make sure we got the right results.

Individual Contributions (this week)

- Wenbing Ma attended the meeting(1hr), measure the waveform for acoustic wave (2hr), measure the wavelength again(3hr), test again for the acoustic wave using the detection part (8hr.)
- Jingxiang Zhang attended the meeting(1hr), try to design a new water tank and make sure the setup runs smoothly(4hr)..Designed a video about how the teamwork break through the problem(3hr). Break hold on a aluminum water tank and set it up on the lab table(5hr).
- Xuan Zhang attended the meeting.(1hr) , measure the waveform for acoustic wave (2hr), measure the wavelength again(3hr), test again for the acoustic wave using the detection part (8hr.)
- Chenyin Liu attended the meeting.(1hr), try to design a new water tank and make sure the setup runs smoothly(4hr)..Designed a video about how the teamwork break through the problem(3hr). Break hold on a aluminum water tank and set it up on the lab table(5hr).
- Zhikai Cui attended the meeting.(1hr), measure the waveform for acoustic wave (2hr), measure the wavelength again(3hr), test again for the acoustic wave using the detection part (8hr.)

Total contributions for the project

Wenbing Ma (14 hr)

Jingxiang Zhang (13hr)

Xuan Zhang (14hr)

Zhikai Cui (14hr)

Chenyin Liu (13hr)