# Project #: to be determined

## *Fall Meeting*
## *October 13th – 15th 2010*

- Student: Yuan Ji
- Faculty: Peter Collins

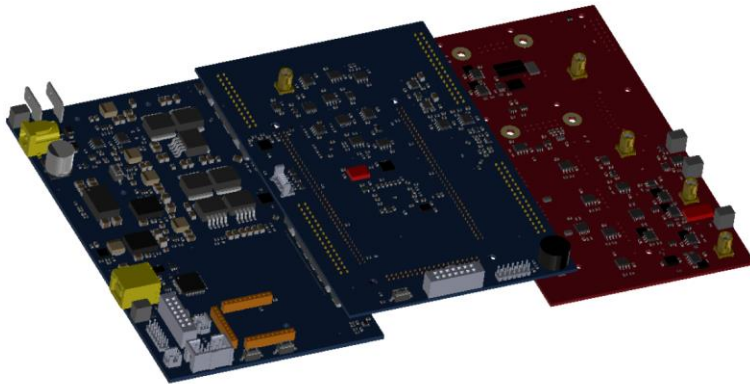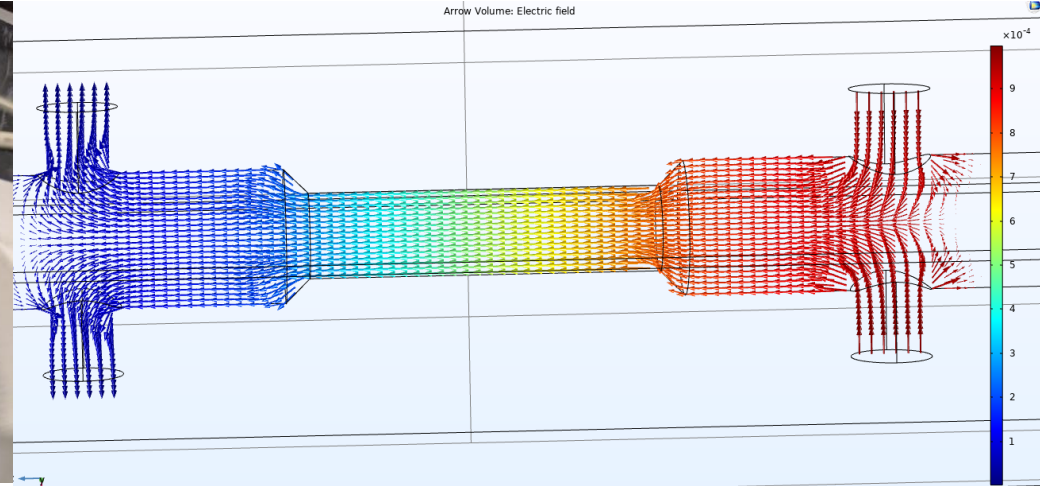NSF · COLORADO SCHOOL OF MINES · IOWA STATE UNIVERSITY

# About Me

- I received my Ph.D. degree from Iowa State University in Electrical Engineering.

- I recently joined Professor Collins' research group as a Postdoctoral Research Associate.

- Because of my electrical engineering background, I am currently working on two research projects that require knowledge and expertise in low noise analog circuits, data acquisition system as well as  digital signal processing.

- In my spare time, I love watching movies, hiking, and building my home made vector network analyzer(VNA), which has been my hobby project since graduate school.

# Previous Projects
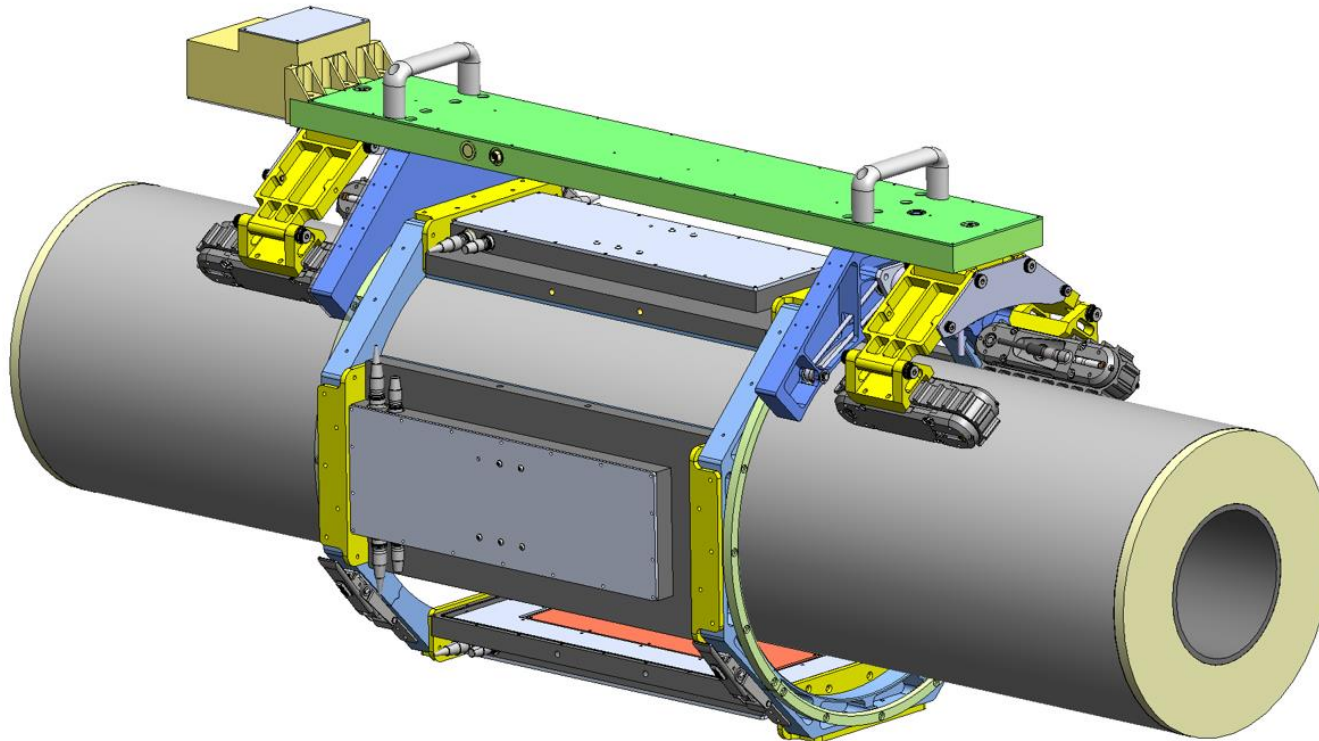


The above figure shows the design of a fully automatic eddy current pipeline inspection system that I developed.

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# Current Project I





Arrow Volume: Electric field



| Sample | Median(µΩ) | Mean(µΩ) | Std(nΩ) | Cov (%) | Range(µΩ) |
|---|---|---|---|---|---|
| G1L AC | 552.769 | 552.769 | 18 | 0.00333 | 0.076 |
| G17L AC | 559.118 | 559.119 | 8 | 0.00141 | 0.045 |
| G15L AC | 557.520 | 557.518 | 12 | 0.00221 | 0.051 |
| G1L by Keithley 6220 | 553.991 | 553.995 | 53 | 0.00953 | 0.262 |
| G17L by Keithley 6220 | 556.414 | 556.410 | 54 | 0.00973 | 0.226 |

Four-point resistance measurement for specimen strength quick evaluation.

# Current Project II
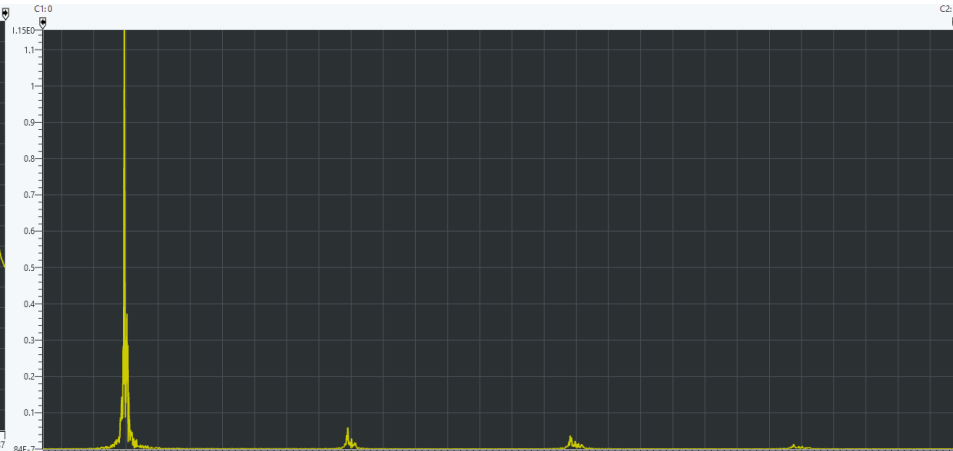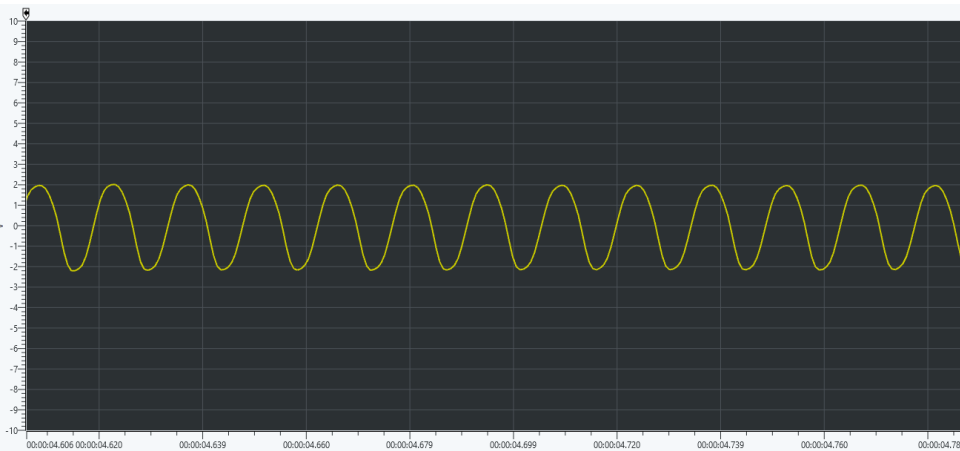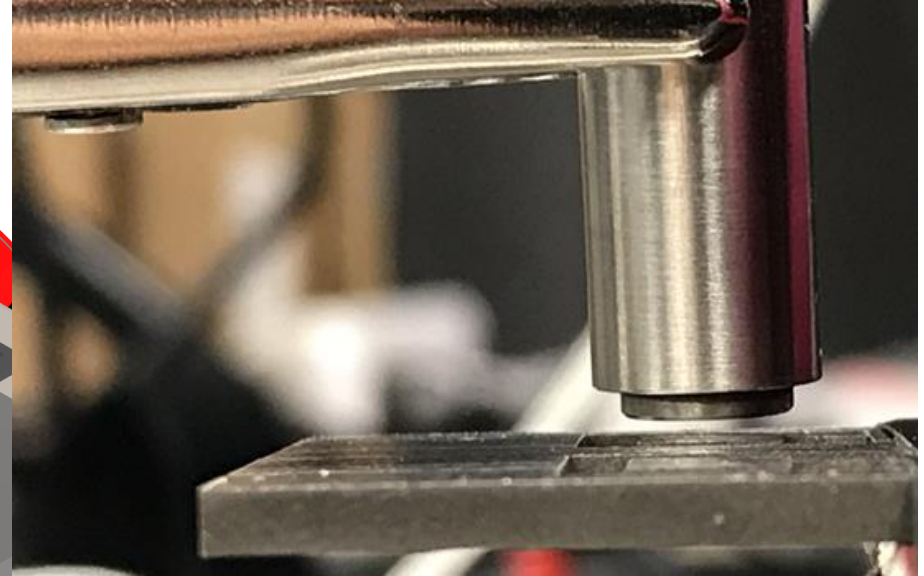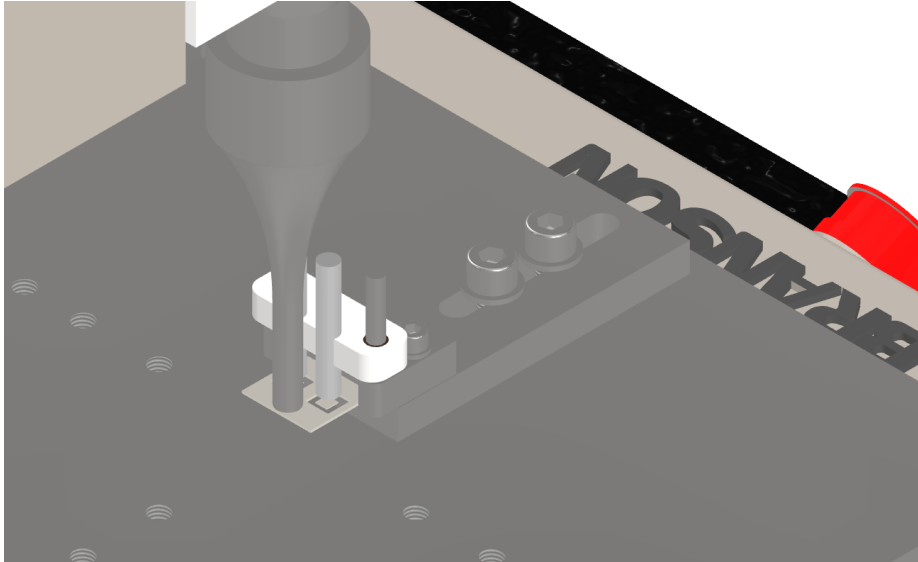


Ultrasonic bending fatigue test deflection sensor data acquisition system.

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# Future Projects

- Embedded computer vision.
- Photogrammetric 3D reconstruction.
- Multichannel high speed data acquisition for photodiode matrix.
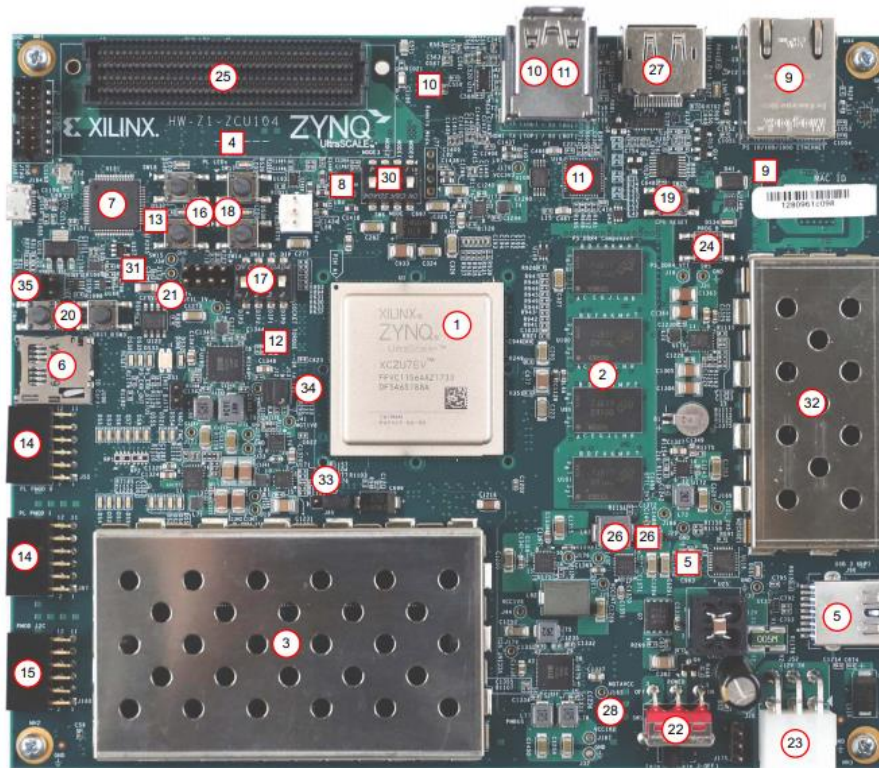


ZCU104 EVM based on Zynq® UltraScale+™ MPSoC

*Thank you!*

Yuan Ji

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