

EDUCATION AND HONORS

North Carolina State University, Raleigh, NC, USA Aug. 2014 to present

- Ph.D., Department of Electrical and Computer Engineering
- Teaching Assistantship; Research Assistantship

Nankai University, Tianjin, China Sep. 2011-Jun. 2014

- M.S., Department of Communication and Information System
- Overall GPA: 3.74/4.00
- Major GPA: **3.77/4.0**; Rank: 5/109
- Graduate Student Fellowship; Research Assistantship

Nankai University, Tianjin, China Sep. 2007-Aug. 2011

- B.S., Department of Communication Engineering
- Overall GPA: 3.53/4.0
- Upper Division Major GPA: **3.76/4.0**
- The Taida-Vestas Scholarship(Correspond to: The First Prize Scholarship)
- The Second Prize of Excellent Undergraduate Scholarship
- The Third Prize of Excellent Undergraduate Scholarship

PROFESSIONAL EXPERIENCE

● ***CMOS Operational Transconductance Amplifier (Nov. 2014 – Dec. 2014)***

- Built a supply-independent biasing circuit;
- Built a rail-to-rail input fully-differential Op-Amp with gain-boosting;
- Built a common-mode feedback circuit;
- Simulated all of the subcircuit and package the OTA in Cadence;
- Realized constant- g_m over the whole common-mode range;
- Achieved 85 dB low frequency gain and 419 MHz gain-bandwidth product;
- Achieved good responses at phase margin, settling time, CMRR, PSRR+, slew rate, etc.

● ***Dual-mode and Multiple-mode Microstrip Filter design (Dec. 2012-Apr. 2014)***

- Did field analysis of different modes within resonators in CST/HFSS;
- Gave methods to calculate and control the self-resonating frequencies of different modes;
- Summarized a way of determining dual mode filter coupling structure and analyzing the generation of transmission zeros in different coupling structures;
- Built corresponding circuit model for high-order dual-mode filter;
- Simulated several dual-mode filters of different resonator structures including quadrature-patch, folded-loop, open-loop resonators, etc.

● ***Design of an 8 order Filter with a pair of transmission zeros (Nov. 2012)***

- Designed and built an 8 order Chebyshev filter with 4GHz mid-frequency and 60MHz bandwidth;
- Realized a pair of transmission zeros in $\pm 1.2i$ through direct cross coupling;
- Minimized unnecessary cross coupling by using Folded-L-type resonator;
- Reduced tuning time by combining Single-port Group Delay and Space Mapping Method;
- Built circuit-level model in Genesys; simulated in Sonnet; optimized in Genesys/ADS.

● ***Design of Quadruplexer (Aug. 2012-Oct. 2012)***

- Designed and built an high temperature superconducting(HTS) quadruplexer with return losses of all 4 channels superior to -24.4 dB;
- Extracted coupled matrix through programming in Matlab;
- Miniaturized the size and mitigated impact between different channels by using a half-wavelength open-loop resonator to combine four filters in parallel.

- ***Design of a 7 order Filter with a pair of transmission zeros (Jun. 2012)***
- Designed and built a 7 order HTS filter with 1.9GHz mid-frequency and 20MHz bandwidth;
- Realized a pair of transmission zeros in $\pm 1.25i$ with a crossover line and thus improved frequency selection characteristic of the filter;
- Calculated theoretical value of the group delay through programming and circuit modeling in Genesys;
- Realized faster and easier tuning by Single-port Group Delay Method.
- ***Auto-Control Irrigation System Based On MCU (Dec. 2010-Apr. 2011)***
- Built a hardware circuit based on MCU, sensor, LCD, key-in device, relay, electromagnetic valve, etc;
- Fulfilled software programming by C++;
- Realized automatic irrigation according to the collected temperature and humidity value of the soil;
- System parameters can be changed through the key-in device and be showed on the LCD screen.

TEACHING EXPERIENCE

Jan. 2015-present:

Teaching assistant of “Electronics Engineering” for Prof. Griff Bilbro

Aug. 2014-Dec. 2014:

Teaching assistant of “Transmission Lines and Antennas for Wireless” for Prof. Griff Bilbro

Sep. 2012-Jan. 2013:

Teaching assistant of “Electromagnetic Field Theory” for Associate Prof. Ming He

Mar. 2012-Jun. 2012:

Teaching assistant of “Microwave Engineering” for Associate Prof. Ming He

CORE COURSES TAKEN

Analog & Digital: IC Design for Wireless Communications, Analog Electronics, Analog Integrated Circuit and System, Computer Architecture, Verilog HDL

Communications & Networks: Digital Signal Processing, Signal Detection and Estimation, Computer Network, Communication systems, Information Theory and Code

RF/Microwave: Microwave Circuit Design Using Scattering Parameter, RF Design for Wireless Communications, Microwave and Antenna, Advanced Electromagnetic Engineering, Superconducting Electronics