
Peng Tian

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Education

09/2009-04/2012 **University of Michigan-Ann Arbor, MI**
MS, Electrical Engineering: Applied EM GPA: 7.727/9.0

09/2005-07/2009 **Harbin Institute of Technology, Harbin, China**
Electrical Engineering Bachelor of Engineering GPA: 3.8/4.0
Rank: 1/107 (Department of Communication Engineering)

Core Courses

Graduate Courses in U of M:

Physical Processes in Plasmas, Electromagnetic theory, Antenna Theory and Design, Microwave measurement Lab, Microwave Circuit, Advanced Microwave Circuit, Radio-wave Propagation. Currently the GSI for EECS 430 in Winter 2011.

Undergraduate Courses:

Basic Physics, Thermodynamics, Electromagnetic, Methods of Mathematical Physics (PDE in Physics), Complex Analysis, Signal and Systems.

Skills

Programming: Matlab, C, Fortran

Applications: Agilent ADS, HFSS, Maxwell, Quartus II

Research Experience

11/2011 ~12/2011 IED and IAD on Electrode in Capacitively Coupled RF Discharge

Ion Energy Distribution (IED) and Ion Angle Distribution (IAD) on electrode through a collisional /collisionless sheath in capacitively coupled RF discharge is simulated with a simplified Monte Carlo Model, as well as a brief analysis and discussion.

01/2011 ~05/2011 Simulation of Patch Antenna for GPS application in Plasma.

When space shuttle entering atmosphere, plasma layer will be generated around the surface. This project is aiming at design an GPS antenna array and simulate the performance in such environment.

- Design a dual-band, single-feed, circularly polarized, cavity-backed patch antenna working at L1 (1.2276GHz) and L2 (1.57546GHz) as array element. Simulate its performance in Plasma.

10/2010 ~12/2010 Down-conversion RF Receiver Front-end for WiMAX System

An RF receiver front-end is designed for Commercial WiMAX Application.

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- The components of the receiver are designed in the project, containing RF-Band Pass Filter, Low Noise Amplifier, High Gain Amplifier, Image Reject Filter, IF Filter and Dual-coupled Mixer.
 - Building a Down-conversion RF front-end receiver with these components. Converting 2.6GHz to 90MHz, with 2dB Noise Figure and 54.7dB Gain.

10/2007 **China Mathematical Contest in Modeling Project**

In the contest, a model for Beijing public transportation system is derived. An algorithm is developed and realized to provide solutions of best route in the system. This is a 3-person team contest. My responsibility:

- Deriving a mathematical model for public transportation in Beijing. The model consists of two heterogeneous networks: bus network, and subway network.
- Developing a solution for optimal route between two stations, realize the algorithm in matlab and C. The algorithm can provide multiple solutions based on different initial goal setup.
- The project is done in three days.

04/2008 **Mathematical Contest in Modeling in the US**

We realized an algorithm for solving Sudoku Puzzle. We also developed a program to generating Sudoku puzzle with *unique* solution, with different levels of difficulty. This is a 3-person contest, my responsibility: b

- Analyzing various techniques for solving a Sudoku Puzzle.
- Developing algorithm for creating sudoku puzzles with unique solution, with adjustable difficulty levels.

Awards and Honors

09/2006	The Foxconn Scholarship issued by Foxconn Electronics.	Top 1%
10/2007	China Undergraduate Mathematical Contest in Modeling, First Prize	Top 3%
04/2008	Mathematical Contest in Modeling in the US, Honorable Mention	Top 10%
09/2008	College National Innovation Projects, First Prize Provincial.	Top 1%
09/2005 ~09/2008	Won 1st class University Scholarships for Three Years.	Top 3%