

# Hongyun Deng, Master's Candidate

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## Research Interests

I am a self-motivated and team-minded master's candidate with 2 years of experience in studying the numerical methods of solving the electromagnetic problems (especially the integral equation method). I am interested in applying different mathematical and physical theories and methods to solve the electromagnetic problems appearing in the microwave technology.

## Education

09/2020 – present	<b>Shanghai Jiao Tong University</b>
Shanghai, China	M. E. Electronic Engineering
09/2016 – 06/2020	<b>Shanghai Jiao Tong University</b>
Shanghai, China	B. E. Electronic Engineering

## Research Experiences

09/2020 – present	<b>Graduate Research Assistant</b>
Shanghai, China	<i>Department of Electronic Engineering, Shanghai Jiao Tong University</i> Studying the electromagnetic scattering problem of the moving object in the lossy medium; Developed a fast algorithm of evaluating the Doppler effect of an arbitrarily shaped object which moves uniformly in the free space using the integral equation method; Proposed a new efficient method of computing the Sommerfeld integrals appearing in the electromagnetic problem in the planar stratified medium
03/2021 – 09/2021	<b>Graduate Teaching Assistant</b>
Shanghai, China	<i>Department of Electronic Engineering, Shanghai Jiao Tong University</i> Helped Prof. Gaobiao Xiao organize the undergraduate course <i>Theory of Electromagnetic waves</i> ; Graded students' assignments and answered some students' questions about the course
09/2017 – 06/2019	<b>Undergraduate Research Assistant</b>
Shanghai, China	<i>Department of Electronic Engineering, Shanghai Jiao Tong University</i> Studied the principles of electromagnetic metamaterials for different uses

## Skills

Analyze electromagnetic problems using the integral equation method (3 years)  
Software engineering (FORTRAN, C/C++, MATLAB, Mathematica, 4 years)  
Scientific Writing and Illustration (MS Office, Latex, Visio, Adobe Illustrator, 3 years)

## Awards

2022	IEEE Antennas and Propagation Society Fellowship (APSF, Application)
2022	Ceyear Scholarship, Ceyear Technologies Co., Ltd, China
2020 – 2021	Academic Scholarship, Shanghai Jiao Tong University, China

## Publications

*Journal Papers*

**H. Deng**, G. Xiao and G. Liu, "An Efficient Method for Calculating the Doppler Spectrum of an Arbitrarily Shaped Object in Uniform Motion," *IEEE Trans. on Antennas Propag.*, 2022, doi: 10.1109/TAP.2022.3191188. (Early Access)

**H. Deng**, G. Xiao, and S. Huang, "New Approximate Expressions for Evaluating the Fields of a Vertical Magnetic Dipole in a Dissipative Half Space", *ACES Journal*, vol. 36, no. 11, pp. 1393–1400, Dec. 2021, doi: 10.13052/2021.ACES.J.361101.

#### ***Conference Papers***

**H. Deng**, G. Xiao, "The Numerical Analysis of the Doppler Effect of an Arbitrarily Shaped PEC Object in Uniform Motion," *2022 Asia-Pacific International Symposium on Electromagnetic Compatibility (AP EMC)*, 2022. (Accepted)

**H. Deng**, S. Huang and G. Xiao, "A Fast Algorithm for Computing Fields of a Vertical Magnetic Dipole in a Dissipative Half-Space," *2021 International Applied Computational Electromagnetics Society (ACES-China) Symposium*, 2021, pp. 1-2.