Haodong Chang

Personal Information

Name	Haodong Chang	**Nationality**	Chinese	
Mobile	(+86)156 6708 2716	**Email**	chang2468135@stu.xjtu.edu.cn	
Address	No.158 Xiying Rd, Xi'an, China	**Postcode**	710043	

Education Experience

- **Xi'an Jiaotong University (Top 2 in Electrical Engineering in China)**   *Sept.2018-Jun.2021*

Master of Electrical Engineering   *Supervisors: Prof. Mingzhe Rong (IET Fellow) & Prof. Yi Wu*

GPA: 3.7/4.0, 90/100 (Rank: 4/58)

Specifically, the GPA in Computer Network and Communication, Electric Networks Theory, Plasma Engineering, or New Technology of Electric Apparatus is 4.0.

- **Xi'an Jiaotong University (Top 2 in Electrical Engineering in China)**   *Sept.2014-Jun.2018*

Bachelor of Electrical Engineering

GPA: 3.68/4.3, 88.28/100 (Rank: 16/352)

Specifically, 4.3 GPA in Computer Programming, Advanced Fundamentals of Circuits, Physics, Equation of Mathematical Physics, Digital Electronics and Microcomputer Principal; 4.0 GPA in Linear Algebra and Analytic Geometry, Complex Function and Integral Transformation, Analog Electronics, Signal and System, Electric Machinery and Automatic Control Theory.

Technical Skills

Software/Languages	MATLAB, JAVA, C#, C++, LabView, SolidWorks, AutoCAD, COMSOL
Experimental Methods	Laser-induced plasmas (LIPs), optical emission spectrum (OES), interferometry, Thomson scattering, Rayleigh scattering

Research Experience

- **Application of Plasma Activated Water (PAW)**   *May. 2016-Nov. 2017*

Leader   *Supervisors: Prof. Dingxin Liu & Prof. Xiaohua Wang*

1) Design and production of the innovative medical device for producing plasma activated water
2) Better bactericidal effect than common fungicides but lower costs ($30) and no side effects on humans
3) First Prize of 15th National "Challenge Cup" and established cooperation with several tertiary hospitals

- **National Key R&D Program**   *Sept. 2017-Dec. 2019*

Core Member   *Supervisors: Prof. Yi Wu & Dr. Zhongxiao Ji*

1) Design of the test platform for the fiber optic current sensor used in medium-voltage DC power system
2) Calibration of the sensor with 0-20 kA capacity and 0.2% maximum error

- **Measurement of CO_2 and Air Arcs**   *Sept. 2018-Dec. 2019*

Core Member   *Supervisors: Prof. Mingzhe Rong (IET Fellow) & Prof. Yi Wu*

1) Measurement of radial temperature distributions of the blown CO_2 arcs under various flow rates and currents
2) Selection of C II 657.8 nm, and combination with the Fowler-Milne method to calibrate the optical system
3) Research on species compositions of non-equilibrium air plasma based on two-color Mach-Zehnder interferometry, and analysis of the distribution of the nonequilibrium parameter
4) Separation and calculation of electron and heavy particle number density throughout the decay process

- **Investigation of laser-induced plasmas in SF_6 gases and C_4F_7N/N_2 mixtures**   *Sept. 2019-Jun. 2021*

Leader   *Supervisors: Prof. Yi Wu & A/Prof. Hao Sun*

1)Designed the diagnostic system of plasma electronic parameters based on Thomson scattering, and completed data processing including reduction of stray light, signal-to-noise enhancement and data fit

2)Accurate measurement of the electron density and electron temperature simultaneously without the symmetric assumption: temporal resolution of 15 ns; spatial resolution of 78 μm

3)Quantitative assessment and mechanism of decay processes and rates at various pressures

4)Decay of C_4F_7N/N_2 mixtures compared to SF_6 and other gases (air and N_2) in terms of electronic parameters

Internship Experience

- **3D Graphics Rendering, NUS**   *Jul. 2017-Aug. 2017*

Exchange Student   *Supervisor: Dr. LOW Kok Lim*

1)Familiar with geometry, rasterization, illumination types, classic ray-tracing models and reflection calculation

2)Programmed as a C++ developer with OpenGL and got the grade of Level A

- **China Academy of Information and Communications Technology (CAICT)**   *Apr. 2020-Jul. 2020*

Researcher   *Supervisor: Dr. Zhen Chen*

1)Investigation of VR/AR devices such as Hololens 2 and popular SoCs such as Snapdragon XR2

2)Investigation of VR/AR application scenarios and typical cases, and real-time rendering suitable for VR/AR

- **State Key Lab of CAD&CG, Zhejiang University**   *Jun. 2022-present*

Research Intern   *Supervisor: A/Prof. Zhong Ren*

1)Review basic knowledge in computer graphics, study Games 101 and program

Selected Publications

1. Hao Sun (my teacher), **Haodong Chang**, Mingzhe Rong, Yi Wu and Hantian Zhang, "Investigation of laser-induced plasma in SF_6 at different pressures using Thomson scattering," *Physics of Plasmas*, vol. 27, no.7, Jul. 2020.

2. **Haodong Chang**, Hao Sun, Panxin He, Yanwei Nan, Fei Yang and Hantian Zhang, "Investigation on the C_4F_7N/N_2 plasmas by Thomson scattering," *The 7th International Conference on Power and Energy Systems Engineering (CPESE 2020)*, Fukuoka, Japan, 2020, online oral presentation.

3. Hao Sun, Yi Wu, Zhexin Chen, Mingzhe Rong, **Haodong Chang**, Fei Yang and Chunping Niu, "Experimental research on species compositions of nonequilibrium air plasma based on two-color Mach-Zehnder interferometry," *Physics of Plasmas*, vol. 26, no.4, Apr. 2019.

4. Yang Li, Shaodi Fan, Yi Wu, Hao Sun, **Haodong Chang**, Luqi Liang and Weiping Guan, "Measurement of radial temperature distributions of the blown CO_2 arcs under different conditions," *Plasma Science and Technology*, vol. 21, no.12, Sept. 2019.

Awards & Honors

2021 **Outstanding Master's Thesis**, endowed by Xi'an Jiaotong University (**23 out of 500**)

2019 **First Class** Scholarship, endowed by Xi'an Jiaotong University

2018 **Siyuan Students**, endowed by Xi'an Jiaotong University (**10 students per year**)

2017 **First Prize** of 15th National "Challenge Cup", endowed by Ministry of Education of China

2017 First Prize of Xi'an Jiaotong University Entrepreneurship Competition

References

Name	Title	Institution	Email
Mingzhe Rong	IEEE Senior Member & IET Fellow, Professor	Xi'an Jiaotong University	mzrong@xjtu.edu.cn
Yi Wu	Honored with the National Science Fund for Distinguished Young Scholars, Professor	Xi'an Jiaotong University	wuyic51@xjtu.edu.cn

English Proficiency Test

IELTS 7.5 (L:7.0, R:8.5, W:8.0, S:6.5), passed on 26 April 2022