

Ruixuan ZHAO

contact information:

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## EDUCATION

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HuaZhong University of Science and Technology (HUST)

HUST, September 2015 - Present

B.S. in Optical and Electronic Engineering

Rank: 2/292

GPA: 3.94/4.00 or 92.4/100

## RESEARCH

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### Generation of Orbital Angular Momentum(OAM) Beam

Advisor: Shuhui Li, Assistant Professor

*Undergraduate research assistant*

HUST, October 2016 - August 2017

- \* Established optical system for beam transfer
- \* Developed fusion splicer's manual mode
- \* Assisted a MS student to finish asymmetrical fusion experiment

### Optical Tweezer and Spanner

Advisor: Shuhui Li, Assistant Professor

*Undergraduate research assistant*

HUST, July 2017 – August 2018

- \* Designed and optimized structure for optical lens with Matlab and FDTD
- \* Explored the way of fabricating fiber lens via fiber fusion splicer
- \* Experimentally realized stable particle trapping and rotation
- \* Wrote paper

### Fault Detection Based On POTDR

Advisor: Ming Tang, Professor

*Undergraduate research assistant*

HUST, June 2018 - Present

- \* Built simulation environment about signal transmission with Matlab
- \* Used POTDR to realize distributed fiber sensor
- \* Combined with Kalman filter

### Microcontroller's Application Designing Project

Advisor: YuBin Wu, Senior Engineer

*Undergraduate research assistant*

HUST, April 2018 - July 2018

- \* Did schematic, PCB design, circuit soldering
- \* Realized arbitrary waveform generation function by coding in Keils 4
- \* Developed GUI for PC controlling in Matlab

## HONORS/AWARDS

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"Outstanding Student"

HUST, September 2017

"Scholarship of Academic Excellence"

HUST, September 2017

"National Scholarship"

Chinese Ministry of Education, 2018

## PUBLICATIONS

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### Patent

- \* *A kind of optical Vortices Converter*

### Paper

- \* Li, S., Xu, Z., **Zhao, R.**, Shen, L., Du, C., & Wang, J. (2018). **Generation of Orbital Angular Momentum Beam Using Fiber-to-Fiber Butt Coupling**. *IEEE Photonics Journal*
- \* Xu, Z., Li, S., **Zhao, R.**, Shen, L., Du, C., & Wang, J. (2018, February). **Experimental demonstration of broadband generation of optical vortices using asymmetrically spliced fibers**. In *Complex Light and Optical Forces XII* (Vol. 10549, p. 105490J). International Society for Optics and Photonics.
- \* **Zhao, R.**, Xu, Z., Li, S., Shen, L., Du, C., & Wang, J. **Design of All-fiber spanner using high-index parabolic tip**. *Optical Express* (submitted)

## SKILLS

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**Technical:** MATLAB, ZEMAX, FDTD Solutions, ISE Design suit, Altim Designer(basic), Multisim

**Language:** Verilog, Assembly Language, C