Ruixuan ZHAO

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EDUCATION

Huazhong University of Science and Technology (HUST) September 2015– June 2019(expected)

B.E. in Opto-electronic Information Science and Engineering

GPA: 3.92/4.0 or 92.37/100

Rank: 6/317

RESEARCH

Broadband Fiber-based OAM Converter Advisor: Shuhui Li, Lecturer

Undergraduate Researcher HUST, October 2016 – June 2017

* Simulated beam propagation in an asymmetrically splicing structure with RSoft
* Spliced or stuck a single-mode fiber (SMF) to two-mode fiber (TMF) with specific offsets and tilts
* Built a platform for generation and detection of orbital angular momentum(OAM) beams

Single-fiber Optical Tweezers and Spanner Advisor: Shuhui Li, Lecturer

Undergraduate Researcher HUST, July 2017 - August 2018

* Designed and optimized the structure of tapered fiber with FDTD Solutions
* Analyzed the distribution of output beam, calculated optical force in script
* Realized non-contact stable trapping and rotation in simulation
* Experimentally trapped yeast and silica particle in water

Microcontroller's Application Designing Project Advisor: Yubin Wu, Senior Engineer

Group Leader HUST, April 2018 - June 2018

* Designed schematic and PCB for arbitrary waveform generator
* Wrote code in Keil 4 and developed GUI in Matlab

POTDR-based Passive Optical Network Monitoring Advisor: Ming Tang, Professor

Undergraduate Researcher HUST, October 2018 - present

* Applying the wave plate model to simulate polarization effect in POTDR system with Matlab
* Identifying and localizing faults by polarization optical time domain reflectometer (POTDR)
* Employing Kalman filter and classification algorithms

PUBLICATIONS

* **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)

* Xu, Z[#]., **Zhao, R[#].**, Li, S., Shen, L., Du, C., & Wang, J. ***Generation of optical vortices using asymmetrically spliced fibers.*** *Journal of optics* (#Contributed equally author)

* Li, S., Xu, Z., **Zhao, R.**, Shen, L., Du, C., & Wang, J. ***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. ***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.

HONORS/AWARDS

"Outstanding Undergraduates in Term of Academic Performance" HUST, 2017

"Undergraduate Research Scholarship" HUST, 2017

"National Scholarship" Chinese Ministry of Education, 2018

SKILLS

Technical: MATLAB, ZEMAX, FDTD Solutions, Rsoft, ISE Design suit, Altium Designer, Multisim

Language: VerilogHDL, Assembly Language, C