

-----RESEARCH EXPERIENCE

● Oct. 2013-Dec. 2013 **Study on (R-NaYbF₄:Tm³⁺)/CaF₂ Core/Shell nanoparticles**

Department of Physics, USTC, with Prof.Zengming Zhang

- College Physics Experimentation IV Course Project, collaborated with members of various research areas and leading the group to finish our research
- Performed a series of experiments, including synthesizing (R-NaYbF₄:Tm³⁺)/CaF₂ Core/Shell nanoparticles, performing X-Ray Diffraction (XRD), and electrical and magnetic characterization of the samples via Physical Property Measurement System (PPMS), Superconducting Quantum Interference Device (SQUID), and Vibrating Sample Magnetometer (VSM)
- Analyzed data using softwares Matlab and Origin, and wrote the Abstract and Instruction of our thesis

● Jul. 2013-May. 2014 **Generation of cylindrical vector beams with digital micromirror device**

Department of Optics and Optical Engineering, USTC, with Prof.Yinmei Li

- Our paper published in **Journal of Applied Physics**, read more: **Generation of cylindrically polarized vector vortex beams with digital micromirror device**
- We have experimentally produced cylindrical vector-vortex modes with various profiles and topological charges through simultaneous encoding of the amplitude, phase, and polarization state of the optical field.
- Performed a series of experiments, taking the advantage of the **digital micromirror device (DMD)** to shape the incident Gaussian mode to various spatial modes.

● Jul. 2014-Aug. 2014 **Semiconductor quantum dots and superconducting cavity coupled quantum system research**

Key Lab of Quantum Information,CAS, with Prof.Tao Tu

- Learn more about quantum information and technology to widen my research areas

● Apr. 2014-Present **The back focal plane of the single molecular electroluminescent imaging studies**

National,Laboratory,Physical,Sciences,Microscale, with Prof.Zhenchao Dong

- Assisted in the construction of a **Scanning Tunneling Microscope (STM)** and confocal ultrafast optical system
- Performed experiments in back focal plane study, including building the optical system, adjusting it, data acquisition and analysis
- Broadened my research areas by attending the Surface Physics Group meeting