Yuan Shen

curriculum vitae

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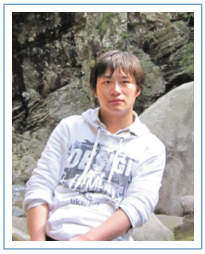

Demography

Family Name:	Shen	**First Name:**	Yuan
Gender:	Male	**Citizenship:**	People's Republic of China
Date of Birth:	03/02/1988	**Place of Birth:**	Tongxiang, Zhejiang

Education Experience

09/2006 – 06/2007 **Transfered**, *Department of Chemistry, Fudan University*, Shanghai, P. R. China, GPA: 3.91/4.0, Rank: 1/93.

09/2007 – 06/2011 **Bachelor of Science**, *Department of Physics, Fudan University*, Shanghai, P. R. China, GPA: 3.89/4.0, Rank: 1/112.

09/2011 – 06/2016 **(Expected)Ph.D.**, *Department of Physics, Stanford University*, CA, United States.

Publications

[1] **Yuan Shen** and Xi Yu, "The Application of NMRI with Measurements of Liquid-solid-liquid Contact Angles", College Physics (in Chinese) Vol.**29**, No.5 53-57 (2010).

[2] **Yuan Shen**, Kun Ding, Wujiong Sun and Lei Zhou, "A Chirality Switching Device Designed with Transformation Optics", Opt. Express **18**, 21419 (2010)

Research Experience

Project 1

Title The Application of NMRI with Measurements of Liquid-solid-liquid Contact Angles

Supervisors Dr. Xi Yu, Fudan University

Abstract

- Proposing research motivation: to overcome the limit of traditional optical ways in liquid-solid-liquid contact angle measurement.
- Introducing the NMRI technique as the substitute technique, selectively making one of the liquids transparent like air.
- Designing and conducting the experiments to obtain contact angles of oil-glass-water and benzene-glass-water interfaces.
- Concluding the research and writing scientific paper.

Project 2

Title A Chirality Switching Device Designed with Transformation Optics

Supervisors Prof. Lei Zhou, Fudan University

Abstract
- Generalizing the Transformation Optics theory as the correspondence between spatial operation and materials filled in space.
- Proposing research motivation: objects with reversed chiralities could be freely "tuned" (i.e., from left-handedness to right-handedness).
- Designing the Chirality Switching Device and identifying the corresponding spatial operation with the generalized transformation optics theory.
- Conducting numerical simulations in both 2D and 3D spaces to testify that the chirality of an object hidden inside the device can be optically changed.
- Concluding the research and writing scientific paper.

Project 3

Title Controlling the Surface Plasmonics of Dirac Fermions with Supperlattice Structure

Supervisors Prof. Lei Zhou, Fudan University

Description
- Proposing research motivation: manipulate Graphene's surface plasmon dispersion by modification of the band structure.
- Calculating the band structure and corresponding Bloch eigenstates for 1D Graphene supperlattice realized with external periodic potentials.
- Calculating the polarizability, conductivity and thus the plasmon dispersion for finite doped 1D Graphene supperlattice systems.
- Proposing the experimental setup.
- In progress.

Selected Activities

05/2009 **Attendee**, *Physics Annual Fudan University*, Shanghai, P. R. China.

05/2010 **Attendee**, *The 9th International conference on Spectroscopies in Novel Materials*, Shanghai, P. R. China.

06/2010 **Poster**, *Physics Annual Fudan University*, Shanghai, P. R. China.

08/2010 **Speaker**, *The 6th National Seminar of College Physics*, Xian, P. R. China.

09/2010 **Poster**, *The Chinese Physics Society 2010 Fall Meeting*, Tianjing, P. R. China.

01/2011 **Attendee**, *The 28th International Workshop of Theoretical Physics in Hebrew University*, Jerusalem, Isarel.