**Weiran Zhou**

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**education**

School of Physical Sciences, University of science and technology of china**, China**

September 2017 - July 2021 (expected)

**GPA (Overall ): 3.87/4.3 (90.21/100) Ranking: top 5% in Applied Physics department**

**Core Courses in Physics**: Optics: 98/100, Electromagnetism: 100/100, Theoretical Mechanics: 93/100, Electrodynamics: 98/100, Classic Mechanics: 91/100, Equations of Mathmatical Physics: 98/100.

**research experiences**

**Nanosynthesis and Electrocatalysis**

Advisor: **Prof. Jie Zeng, National laboratory for physical sciences at the microscale**

**Project 1: Electro-oxidation of propylene by using silver nanomaterial** July,2019- Present

* Developed a synthesis method to finely control Ag3PO4 crystal shapes by tuning the amount of reactants, thus different crystal facets ((100), (110), (111)) could be exposed.
* Studied the dependence of Ag3PO4 crystal facet on catalytic activity and selectivity of propylene electro-oxidation process, where Ag3PO4 crystal with (100) facet turned out to achieve the highest catalytic activity.
* Simulated the absorption energy of propylene on different crystal facets of Ag3PO4, with (100) facet having the highest absorption energy.
* Synthesized AgX (X = Cl, Br, I) nanoparticles, and compared the possible effect of halogen on the electro-oxidation performance, where AgI particles ( 0.8 ~ 1μm ) were found to achieve the highest Faraday efficiency under constant voltage.
* Currently performing Infrared spectrum, X-ray photoelectron spectroscopy tests on silver phosphate materials.

**Project 2: Electro-reduction of CO2 by In Nanoparticles** March, 2019 - May,2019

* Used InNO3 as metal precursor and acid-treated carbon as capping agent to synthsize Monodispersed In particles which were used as catalysis for electro-reduction of CO2.
* Carried out electrocatalytic characterizations using chromatograms to obtain good catalytic activity.

**scholarship and honors**

1. Suzhou Nanophysics Institute Scholarship 2019
2. Outstanding student scholarship 2017 and 2018
3. Natural Science Electromagnetic Essay Contest 2015

**skills \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Programming Languages:** C, Java, Python, MATLAB, Latex;

**Applications:** Microsoft Office Suite, Photoshop, C-Free, Mathematica, Material Studio

**Material characterization techniques:** scanning electron microscop , X-ray diffraction

**Standardized English Tests**

**GRE** V-152 + Q-170 + AW-3.0

**TOEFL** 101 (Reading: 30; Listening: 26; Speaking: 22; Writing: 23)