

# YUANZHENG WEN

413 Van Allen Hall, Iowa City, IA 52242, USA

+1 (319)-936-5620 [yuanzheng-wen@uiowa.edu](mailto:yuanzheng-wen@uiowa.edu) [www.yuanzhengwen.cn](http://www.yuanzhengwen.cn)

## EDUCATION

---

University of Iowa

Department of Physics and Astronomy

Aug 2023-present

Ph.D. Student in Physics

Chengdu University of Technology

Department of Geophysics and Space Sciences

Sep 2018 - Jun 2022

B.S. in Space Sciences and Technology

## PUBLICATION (CITATION: 19 H-INDEX:2)

---

**1. Ionospheric TEC and plasma anomalies possibly associated with the 14 July 2019 Mw 7.2 Indonesia Laiwui earthquake, from analysis of GPS and CSES data**

YZ Wen, D Tao, GX Wang et al.

*Earth and Planetary Physics*, doi: <http://doi.org/10.26464/epp2022028>

**2. Statistical investigations of the flow-aligned component of IMF impact on the current sheet structure in the Martian magnetotail: MAVEN observations**

YZ Wen, ZJ Rong, H Nilsson et al.

To be submitted to *Journal of Geophysical Research: Space Physics*

**3. Multi-Point Observations of the Magnetic Reconnection in the Martian Magnetotail Triggered by an Interplanetary Magnetic Field Rotation**

YZ Wen, JS Halekas, HW Shen et al.

*The Astrophysical Journal Letters*, doi: [10.22541/essoar.173867504.48374343/v1](https://doi.org/10.22541/essoar.173867504.48374343/v1)

**4. Are the Significant Ionospheric Anomalies Associated with the 2007 Great Deep-Focus Undersea Jakarta-Java Earthquake?**

D Tao, GX Wang, JY Zong, YZ Wen, et al.

*Remote Sensing*, doi: <https://doi.org/10.3390/rs14092211>

## RESEARCH EXPERIENCE

---

University of Iowa

Graduate Research Assistant

Jan 2024 - present

Supervisor: Prof. Jasper Halekas

- **Project: Exploring the Rapid Response of the Martian Magnetosphere to the Dynamic Solar Wind**

LASP-University of Colorado, Boulder

Undergraduate Researcher

May 2022 - Aug 2023

Supervisor: Prof. David Brain & Prof. Hans Nilsson

- **Project: Joint Observations of Mars' Tail Ion Escape Evolution from MAVEN and MEX**
- Analyzed synchronized MAVEN STATIC and Mars Express ASPERA-3 plasma observation to study ion escape evolution in Mars' magnetotail
- **Presentation at ASEPRA Team Meeting by IRF**

Institute of Geology and Geophysics, Chinese Academy of Sciences

Undergraduate Researcher

Jul 2021 - Oct 2021

Supervisor: Prof. Zhaojin Rong

- **Project: Statistical Investigations of the Flow-Aligned Component of IMF Impact on Magnetic Field Structure in Martian Magnetotail: MAVEN Observations**

- Analysis of magnetic field and plasma data from MAVEN to study IMF influences on Mars' magnetotail structure
- **Oral Presentation at 2022 AOGS Meeting in Singapore.**
- **First-author paper is in preparation.**

**Swedish Institute of Space Physics (IRF), Kiruna**

Apr 2021 - Present

*Undergraduate Researcher*

**Supervisor: Prof. Hans Nilsson & Prof. Mats Holmstrom**

- **Project: Solar Wind and Planetary Ions Mixing Investigations in the Vicinity of Martian Tail Region with MEX and MAVEN**
- Search and analysis of physical characters of ion mixing region near the Mars' tail boundary based on Mars Express and MAVEN observations

**National Space Science Center, Chinese Academy of Sciences**

Jul 2020 - Sep 2020

*Undergraduate Researcher*

**Supervisor: Dr. Yiteng Zhang**

- **Project: MHD Simulation of Mars Space Environment**
- Modeling the plasma environment of Mars and studied crustal magnetic fields influence on space environment
- **Supported by Chinese Academy of Sciences Research Fellowship.**

**Chengdu University of Technology**

Sep 2019 - Dec 2020

*Undergraduate Research Assistant*

**Supervisor: Prof. Dan Tao**

- **Project: Investigations of Seismic Ionospheric Disturbances with GPS and CSES**
- Analysis of global and local ionospheric anomalies before strong earthquakes based on satellite observations
- **First-author paper at *Earth and Planetary Physics***

## SELECTED HONORS AND AWARDS

---

AGU 2024 Outstanding Student Presentation Award (top 2%-5% of student presenters)	2025
Pfeiffer and Maltby Scholarship, University of Iowa	2025
Undergraduate Research Fellowship, Chinese Academy of Sciences	Sep 2020/2021
Honorary Student of CAS-USTC International Summer School in Planetary Sciences	Aug 2020/2021
Honorary Student of Space Physics Summer School, ISPAT, Peking University	Jul 2021
National Scholarship, Ministry of Education of China	Sep 2020

## TEACHING EXPERIENCE

---

Teaching Assistant of PHYS 3811: Electricity and Magnetism	Aug 2023-Dec 2023
Teaching Assistant of Mathematical Methods for Physics	Mar 2020-Jun 2020
Teaching Assistant of College Physics	Sep 2020-Jan 2021
Private Tutoring in Math, Physics and MATLAB Programming	

## COMUPTER SKILLS

---

<b>Programming</b>	MATLAB, CERN ROOT, IDL (SPEDAS), Python (irfpy)
<b>Operation System</b>	Windows, Linux (Ubuntu)
<b>Space Mission Instruments</b>	MAVEN (STATIC, SWIA, MAG), Mars Express (ASPERA-3 IMA) CSES (LAP, PAP)

## REFERENCES

---

**Prof. Jasper Halekas**  
*Ph.D. Advisor*

Professor, University of Iowa  
**jasper-halekas@uiowa.edu**

**Prof. David Brain**  
*Collaborator*

Professor, University of Colorado, Boulder  
**david.brain@lasp.colorado.edu**

**Dr. Han-Wen Shen**  
*Collaborator*

Postdoc Scholar, University of Iowa  
**han-wen-shen@uiowa.edu**

**Dr. Yaxue Dong**  
*Collaborator*

Research Scientist, LASP  
**yaxue.dong@lasp.colorado.edu**

**Prof. Hans Nilsson**  
*Undergraduate Research Advisor*

Senior Scientist, Swedish Institute of Space Physics, Kiruna  
**hans.nilsson@irf.se**

**Prof. Dan Tao**  
*Undergraduate Research Advisor*

Associate Professor, Chengdu University of Technology  
**dan.tao@cdut.edu.cn**

**Prof. Zhaojin Rong**  
*Undergraduate Research Advisor*

Professor, Institute of Geology and Geophysics, CAS  
**rongzhaojin@mail.iggcas.ac.cn**