

Shuai Zha – *Curriculum Vitae*

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Date of Birth	1 st September 1992	Email	shuai.zha@astro.su.se
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Positions

2019 Sep. - Postdoctoral researcher, Department of Astronomy, Stockholm University

Education

- 2015 Aug. -2019 Aug.** Ph.D. in Physics - the Chinese University of Hong Kong
Thesis: Supernovae simulation and stellar evolution
- 2012 Aug. -2015 Jul.** M.Sc. in Physics - Fudan University
Thesis: Sum-frequency spectroscopy with femtosecond laser
- 2008 Sep. -2012 Jul.** B.Sc. in Physics - Fudan University

Publications

First author:

1. Gravitational-wave Signature of a First-order Quantum Chromodynamics Phase Transition in Core-Collapse Supernovae
Shuai Zha, Evan P. O'Connor, Ming-chung Chu, Lap-Ming Lin, Sean M. Couch
Physical Review Letters **125**, 051102 (2020); *Editor's Suggestions*; arXiv:2007.04716
2. Evolution of ONeMg Core in Super-AGB Stars towards Electron-Capture Supernovae: Effects of Updated Electron-Capture Rate
Shuai Zha, Shing-Chi Leung, Toshio Suzuki, Ken'ichi Nomoto
Astrophysical Journal **886**, 22 (2019); arXiv:1907.04184; IPMU *press*.
3. Accretion-Induced Collapse of Dark Matter Admixed White Dwarfs - II: Rotation and Gravitational-wave Signals
Shuai Zha, Shing-Chi Leung, Ming-Chung Chu, Lap-Ming Lin
Astrophysical Journal **883**, 13 (2019); arXiv:1908.05150

Second-author:

4. Electron capture rates in ^{20}Ne for a forbidden transition to the ground state of ^{20}F relevant to final evolution of high density O-Ne-Mg cores
Toshio Suzuki, **Shuai Zha**, Shing-Chi Leung, Ken'ichi Nomoto
Astrophysical Journal **881**, 64 (2019); arXiv:1905.10400
5. Accretion-Induced Collapse of Dark Matter Admixed White Dwarfs - I : Formation of Low-mass Neutron Stars
Shing-Chi Leung, **Shuai Zha**, Ming-Chung Chu, Lap-Ming Lin, Ken'ichi Nomoto
Astrophysical Journal **884**, 9 (2019); arXiv:1908.05102

6. Surface pH and Ion Affinity at the Alcohol-Monolayer/Water Interface Studied by Sum-Frequency Spectroscopy
Yu-Chieh Wen, **Shuai Zha**, Chuanshan Tian, and Yuen-Ron Shen
The Journal of Physical Chemistry C, **120**, 28 (2016)
7. Unveiling Microscopic Structures of Charged Water Interfaces by Surface-Specific Vibrational Spectroscopy
Yu-Chieh Wen, **Shuai Zha**, Xing Liu, Shanshan Yang, Pan Guo, Guosheng Shi, Haiping Fang, Yuen-Ron Shen, and Chuanshan Tian
Physical Review Letters, **116**, 016101 (2016)

Co-author:

8. Constraints on the chemical enrichment history of the Perseus Cluster of galaxies from high-resolution X-ray spectroscopy
Aurora Simionescu et. al. (36 authors including Shuai Zha)
Mon. Notices Royal Astron. Soc., **483**, 1701 (2018)
9. Carbon nanodots featuring efficient FRET for two-photon photodynamic cancer therapy with a low fs laser power density
Jing Wang, Zehui Zhang, **Shuai Zha**, Yinyan Zhu, Peiyi Wu, Benjamin Ehrenberg, and Ji-Yao Chen
Biomaterials, **35**, 9372 (2014)

Seminar talks

- Sep. 2020 TDli Institute, Shanghai, China
- Aug. 2020 CTPU, IBS, South Korea, *via web*
- Feb. 2020 OKC, EO meeting, Stockholm, Sweden
- Jan. 2020 CUHK Seminar, Hong Kong, China
- Oct. 2018 ASIAA, Lunch talk, Taipei, Taiwan, China
- Jul. 2018 Kavli IPMU, APEC seminar, Tokyo, Japan
- Jul. 2016 Kavli IPMU, APEC seminar, Tokyo, Japan

Conference presentations

- Feb. 2020 Poster, Compact Objects for All, Lund, Sweden
- Nov. 2019 Oral, Oskar Klein Center day, Stockholm, Sweden
- May 2019 Oral, Electron-Capture-Initiated Stellar Collapse, Lorentz Center, Leiden, The Netherlands
- Feb. 2019 Oral, Supernova Mini-Workshop in CUHK, Hong Kong, China
- Nov. 2018 Oral, CoCoNuT Meeting 2018, CEA Saclay, Paris, France
- Oct. 2018 Oral, The 8th East Asian Numerical Astrophysics Meeting, NCKU, Tainan, Taiwan
- Sep. 2018 Poster, Sixth Annual GMT Community Science Meeting, Honolulu, Hawaii, United States
- Feb. 2017 Poster, Quarks and Compact Stars, YITP, Kyoto University, Kyoto, Japan
- Jul. 2016 Oral, 10th JGX Astrophysics Meeting, Xiamen University, Xiamen, China

Research experience

- Aug 2020 - Sep 2020** Visiting scholar, TDLi Institute, Shanghai Jiaotong University, Shanghai, China
- Sep 2017 - Jan 2018** Kavli IPMU, the University of Tokyo, Tokyo, Japan
Collaborative research with Prof. Ken'ichi Nomoto on Evolution of Super-AGB stars towards Electron-Capture Supernova

Professional Activities

- Feb. 2019 Organizer of Supernova Mini-Workshop in CUHK, Hong Kong, China

Grants and Selected Awards

- Jun. 2020 IAU travel grant for IAU Symposium 362, ~ 400 Euro *Canceled due to covid-19.*
- Dec. 2019 Grant for collaboration with University of Tokyo, 50000 SEK (~ 5000 US dollars)
- Sep. 2017 Global Scholarship Programme for Research Excellence, CUHK, 20000 HKD
- Sep. 2012 Scholarship for outstanding fresh graduate student, Fudan University
- Sep. 2008 Scholarship for outstanding fresh undergraduate student, Fudan University

Computer times

- Aug 2020 - Aug 2021 Co-Investigator, SNIC 2020/5-385, 90×1000 core-h/month

Teaching experiences

- Jun. 2018 **Mentor** Lectures for summer students on supernovae and hydrodynamical simulations
- Jun. 2017 **Mentor** Summer student Soumyadeep Das on supernova simulation
- 2015-2019 **Teaching assistant**, CUHK, General Physics, Astronomy, exercise class
- 2012 Spring **Teaching assistant**, Fudan University, University Physics, exercise class

Programming Languages

Fortran, Python, matlab, L^AT_EX, C

Human languages

Mandarin (native), English (fluent), Cantonese (medium), Japanese (basic)