

# Weijia Sun

## Curriculum Vitae

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Kavli Institute for Astronomy and Astrophysics



## Education

- 2016–now **Ph.D., Astrophysics**, Department of Astronomy, School of Physics, Peking University, Beijing, China  
Supervisor: Prof. Licai Deng (National Astronomical Observatories of China)  
Prof. Richard de Grijs (Macquarie University)
- 2012–2015 **B.Sc., Astrophysics**, Department of Astronomy, School of Physics, Peking University, Beijing, China  
Supervisor: Prof. Eric Peng (Peking University)  
Thesis: A search for planetary nebulae in Virgo cluster globular clusters

## References

- [1] Xiao-Wei Duan, **Weijia Sun**, Xiaodian Chen, et al. “Further evidence of shocks in the first-overtone RR Lyrae pulsators: first detection of shock-triggered magnesium emissions”. In: *The Astrophysical Journal submitted*, arXiv:2109.07486 (Sept. 2021).
- [2] **Weijia Sun**, Xiao-Wei Duan, Licai Deng, et al. “Exploring the stellar rotation of early-type stars in the LAMOST Medium-Resolution Survey. II. Statistics”. In: *The Astrophysical Journal accepted*, arXiv:2108.01213 (Aug. 2021).
- [3] **Weijia Sun**, Xiao-Wei Duan, Licai Deng, et al. “Exploring the stellar rotation of early-type stars in the LAMOST Medium-Resolution Survey. I. Catalog”. In: *The Astrophysical Journal Supplement Series accepted*, arXiv:2108.01212 (Aug. 2021).
- [4] Xiao-Wei Duan, Xiaodian Chen, **Weijia Sun**, et al. “Blueshifted Hydrogen Emission and Shock Wave of RR Lyrae Variables in SDSS and LAMOST”. In: *The Astrophysical Journal* 918.1, 3 (Sept. 2021), p. 3.
- [5] **Weijia Sun**, Richard de Grijs, Licai Deng, et al. “Binary-driven stellar rotation evolution at the main-sequence turn-off in star clusters”. In: *Monthly Notices of the Royal Astronomical Society* 502.3 (Apr. 2021), pp. 4350–4358.
- [6] **Weijia Sun**, Xiaodian Chen, Licai Deng, et al. “Physical Parameters of Late-type Contact Binaries in the Northern Catalina Sky Survey”. In: *The Astrophysical Journal Supplement Series* 247.2, 50 (Apr. 2020), p. 50.
- [7] **Weijia Sun**, Eric W. Peng, Youkyung Ko, et al. “The Next Generation Virgo Cluster Survey. XVII. A Search for Planetary Nebulae in Virgo Cluster Globular Clusters”. In: *The Astrophysical Journal* 885.2, 145 (Nov. 2019), p. 145.

- [8] **Weijia Sun**, Chengyuan Li, Licai Deng, et al. "Tidal-locking-induced Stellar Rotation Dichotomy in the Open Cluster NGC 2287?" In: *The Astrophysical Journal* 883.2 (Oct. 2019), p. 182.
- [9] Chengyuan Li, **Weijia Sun**, Richard de Grijs, et al. "Extended Main-sequence Turnoffs in the Double Cluster h and  $\chi$  Persei: The Complex Role of Stellar Rotation". In: *The Astrophysical Journal* 876.1 (May 2019), p. 65.
- [10] **Weijia Sun**, Richard de Grijs, Licai Deng, et al. "Stellar Rotation and the Extended Main-sequence Turnoff in the Open Cluster NGC 5822". In: *The Astrophysical Journal* 876.2 (May 2019), p. 113.
- [11] Chengyuan Li, **Weijia Sun**, Jongsuk Hong, et al. "Blue Straggler Stars beyond the Milky Way. IV. Radial Distributions and Dynamical Implications". In: *The Astrophysical Journal* 871.2 (Feb. 2019), p. 171.
- [12] **Weijia Sun**, Chengyuan Li, Richard de Grijs, et al. "Blue Straggler Stars beyond the Milky Way. II. A Binary Origin for Blue Straggler Stars in Magellanic Cloud Clusters". In: *The Astrophysical Journal* 862.2 (Aug. 2018), p. 133.
- [13] **Weijia Sun**, Richard de Grijs, Zhou Fan, et al. "The Star Cluster Mass-Galactocentric Radius Relation: Implications for Cluster Formation". In: *The Astrophysical Journal* 816.1 (Jan. 2016), p. 9.

## Skills

- Spectroscopic data reduction and analysis
- Machine-learning method to extract physical information from spectra and light curves
- Stellar photometry reduction
- Preparation and execution of Observing Programs
- MCMC statistics

## Conferences & Talks

- 2021 ACAMAR Future of Traditional Survey Science workshop, Online, September 22, 2021  
Contributed talk: Exploring the stellar rotation of early-type stars in the LAMOST Medium-Resolution Survey
- 2021 Seminar at Shanghai Astronomical Observatory, China, July 14, 2021  
Seminar: Stellar rotation in stellar physics
- 2020 Chinese Astronomical Society 2020 Annual Meeting, Beijing, China, October 12-14, 2020  
Contributed talk: Stellar rotation: the missing piece in star clusters
- 2020 AAAStro-seminar at Macquarie University, Australia, August 21, 2020  
Invited talk: Stellar rotation: the missing piece in star clusters
- 2019 The Next Generation Virgo Cluster Survey (NGVS) Team Meeting, Beijing, China, June 10-13, 2019

- Invited talk: PNe in GCs of M87 and M49
- 2019 IAU Symposium 351 & MODEST-19, Star Clusters: from the Milky Way to the Early Universe, Bologna, Italy, May 27-31, 2019  
Poster
- 2018 Star clusters and the Milky Way, The XII Luoxiahong workshop in Astrophysics, Langzhong, China, November 20-21. 2018  
Contributed talk: The origin of blue straggler stars in the Magellanic Clouds clusters
- 2017 Star clusters and the Milky Way, The XI Luoxiahong workshop in Astrophysics, Nanchong, China, October 9-11. 2017  
Contributed talk: Population study of stellar rotation rates in clusters
- 2017 Stellar Populations and the Distance Scale, Beijing, China, September 11-16, 2017
- 2017 Chinese Astronomical Society 2017 Annual Meeting, Urumchi, China, August 7-11, 2017

## Observation Experience

- 2021 Awarded 5 h at the CFHT as co-I in semester 2021B
- 2021 Awarded 5 h at the SALT as PI in semester 2021-1
- 2020 Awarded 5 h at the SALT as PI in semester 2020-2
- 2020 Awarded 7 h at the SALT as PI in semester 2020-1
- 2019 Awarded 6 h at the SALT as PI in semester 2019-2
- 2019 Visitor observer for the awarded 2 nights at Lijiang 2.4m telescope (PI: Chunguang Zhang)
- 2017 Awarded 4.5 h at the SALT as co-I in semester 2018-2 (PI: Michael Albrow)
- 2017 Awarded 4.5 h at the SALT as co-I in semester 2018-1 (PI: Michael Albrow)
- 2017 Awarded 15 h at the SALT as co-I in semester 2017-2 (PI: Michael Albrow)
- 2016 Visitor observer for the awarded 5 nights at Palomar P200 (PI: Eric Peng)

## Selected Honors

- 2019 Excellent Study Scholarship, Peking University
- 2018 Excellent Research Scholarship, Peking University
- 2016 Presidential Scholarship, Peking University
- 2016 Outstanding Undergraduate Thesis Award, Peking University

## Teaching & Outreach

- 2021 Technical supporter for the conference "ACAMAR Future of Traditional Survey Science workshop"
- 2020 Technical supporter for the conference "ACAMAR Virtual Workshop"
- 2020 Teaching Assistant, Radiation Process
- 2020 Teaching Assistant, Frontier of Astrophysics

2017 Volunteer for the conference “Stellar Populations and the Distance Scale”, Beijing

## Coding

- PYTHON (proficient)
- $\text{\LaTeX}$
- R
- UNIX

## Language

English Professional working proficiency  
Chinese Native or bilingual proficiency