

Personal Information	Name: Youli TUO Current status: Postdoctoral Researcher Gender: Male Year of birth: 1993 ✉ <a href="mailto:youli.tuo@astro.uni-tuebingen.de">youli.tuo@astro.uni-tuebingen.de</a> 🔗 <a href="http://www.youlituo.pro">www.youlituo.pro</a> 🌐 <a href="https://github.com/tuoyl">www.github.com/tuoyl</a> 📄 <a href="https://code.ihep.ac.cn/tuoyl">https://code.ihep.ac.cn/tuoyl</a> Language: Chinese (native), English (professional proficiency), German (elementary proficiency)	
Employment	Postdoctoral research, University of Tübingen, Germany	2022.12–present
	Postdoctoral research, Institute of High Energy Physics, Beijing, China	2020.11–2022.11
Education	Institute of High Energy Physics, Chinese Academy of Science <b>Ph.D degree</b> in High Energy Astrophysics <i>Supervisor:</i> Liming Song <i>Thesis title:</i> Study of the high-energy properties of pulsars observed by Insight-HXMT	2015.09–2020.09
	Yunnan University, Kunming, China <b>Bachelor’s degree</b> in Mathematics and Physics	2011.09–2015.06
Computer Skills	<b>Operating systems:</b> MacOS, Windows, GNU/Linux. <b>languages:</b> Python, GNU Bash, C++ <b>Scientific softwares</b> HXMTDAS, heasoft, Xspec, TEMPO2, L <sup>A</sup> T <sub>E</sub> X	
Research Interests	<ul style="list-style-type: none"><li>• Glitch phenomena in high-energy pulsars</li><li>• Timing and spectral observations of X-ray accreting pulsars</li><li>• Simulations and statistical analysis of instrumental effects in high-energy astrophysics</li></ul>	
Refereed Publications († : 1 <sup>st</sup> /2 <sup>nd</sup> author) <a href="#">NASA/ADS Library Link</a>	There are 6 papers published as first/second author; 3453 citation in total, including 78 citations of the first/second-author publications.	
	16. <b>Timing properties of the X-ray accreting pulsar RX J0440.9+4431 studied with Insight-HXMT and NICER</b> Li, P.P.; Tao, L.; <a href="#">Tuo, Y.L.</a> ; Ge, M.Y.; Kong, L.D.; Zhang, L., ... and Guan, J. <a href="#">MNRAS</a> , 526(3), 3637, 2023	
	15.† <b>Discovery of the linear energy dependence of the spectral lag of X-ray bursts from SGR J1935+2154</b> Xiao Suo, <a href="#">Tuo Youli</a> , Shuang-Nan Zhang, ..., and Ti-Pei Li, <a href="#">MNRAS</a> 521, 5308, 2023	
	14.† <b>A Study on the X-Ray Pulse Profile and Spectrum of the Crab Pulsar Using NICER and Insight-HXMT’s Observations</b> Lin-Li Yan, <a href="#">You-Li Tuo</a> , Ming-Yu Ge, Fang-Jun Lu, Shi-Jie Zheng, and Ling-Jun Wang, <a href="#">ApJ</a> , 928, 2	
	13.† <b>In-orbit timing calibration of the Insight-Hard X-ray Modulation Telescope;</b> <a href="#">Tuo Youli</a> , Li Xiaobo, Ge Mingyu, ..., and Li Bing, <a href="#">ApJS</a> , 259(1), 14, 2022;	
	12. <b>On-ground and on-orbit time calibrations of GECAM</b> Xiao, S. Liu, Y. Q.; Peng, W. X.; An, Z. H.; Xiong, S. L.; <a href="#">Tuo, Y. L.</a> ; ..., and Zhang, S. N. <a href="#">MNRAS</a> 511, 964, 2022	
	11. <b>Synchronous X-ray/Optical QPOs from the Black Hole LMXB MAXI J1820+070</b> Thomas, Jessymol K.; Buckley, David A. H.; Charles, Philip A., ..., <a href="#">Tuo, Youli</a> , and Zhang, Shuang-Nan, <a href="#">MNRAS: Letters</a> , 2021	
	10. <b>Relation of Cyclotron Resonant Energy and Luminosity in a Strongly Magnetized Neutron Star GRO J1008-57 Observed by Insight-HXMT</b> Chen, X.; Wang, W.; Tang, Y. M.; Ding, Y. Z.; <a href="#">Tuo, Y. L.</a> ; ..., and J.L. Qu, <a href="#">ApJ</a> , 919, 33, 2021	

9. **Estimating the Black Hole Spin for the X-Ray Binary MAXI J1820+070**  
Zhao, Xueshan ; Gou, Lijun ; Dong, Yanting; [Tuo, Youli](#); Liao, Zhenxuan; Li, Yufeng ; Jia, Nan; Feng, Ye; Steiner, James F., [ApJ](#), 916(2), 14, 2022
8. **Spectral evolution of X-ray pulsar 4U 1901+03 during the 2019 outburst based on Insight-HXMT and NuSTAR observations**  
Nabizadeh, Armin; Tsygankov, Sergey S.; Ji, Long; Doroshenko, Victor; Molkov, Sergey V. ;[Tuo, Youli](#); Zhang, Shuang-Nan; Lu, Fan-Jun; Zhang, Shu; Poutanen, Juri, [A&A](#), 652, 12, 2021
7. **HXMT identification of a non-thermal X-ray burst from SGR J1935+2154 and with FRB 200428**  
C. Li, L. Lin, S. Xiong, M. Ge, X. Li, T. Li, F. Lu, S-N. Zhang, [Y. Tuo](#), ..., and Insight-HXMT collaboration, [Nature Astronomy](#),5,378,2021
- 6.† **Insight-HXMT observations of jet-like corona in a black hole X-ray binary MAXI J1820+070**  
Bei You, [Yuoli. Tuo](#), Chengzhe Li, Wei Wang, Shuang-Nan Zhang, ..., and Insight-HXMT collaboration, [Nature Communication](#), 12, 1025, 2021
- 5.† **Insight-HXMT insight into switch of the accretion mode: The case of the X-ray pulsar 4U 1901+03**  
[Y.L. Tuo](#), L. Ji, S.S. Tsygankov, T. Mihara, L.M. Song, ..., and Insight-HXMT collaboration, [Journal of High Energy Astrophysics](#), 27, 38, 2020
- 4.† **Insight-HXMT observations of the Crab pulsar**  
[Y.L. Tuo](#), M.Y.Ge, L.M. Song, L.L. Yan, Q.C.Bu, and J.L. Qu., [Research in Astronomy and Astrophysics](#), 19, 087, 2019
3. **Time evolution of the X-ray and gamma-ray fluxes of the Crab pulsar**  
L.L. Yan, M.Y. Ge, F.J. Lu, S.J. Zheng, [Y.L. Tuo](#), Z.J. Li, J.L. Qu, [ApJ](#),865(1), 21, 2018
2. **Multi-messenger Observations of a Binary Neutron Star Merger**  
Abbott, B. P.; Abbott, R.; Abbott, T. D, ..., [Tuo, Y. L.](#); and 3673 more, [ApJL](#), 848, L12, 2017
1. **Phase Evolution of the Crab pulsar between Radio and X-ray**  
L.L. Yan, M.Y. Ge, J.P. Yuan, S.J. Zheng, F.J. Lu, [Y.L. Tuo](#), H. Tong, S. N. Zhang, Y. Lu, J.L. Han, and Y.J. Du, [ApJ](#), 845(2), 119, 2017

#### Submitted Publications

- **Revisiting the dead time effects of Insight-HXMT/ME**  
[Y.L. Tuo](#), X.B. Li, ..., and A. Santangelo, submitted to MNRAS
- **Revisiting RXTE observations of MXB 0656-072 during the type I outbursts in 2007-2008**  
Mirac Serim, M.; Serim, Danjela; Kerem Dönmez, Çağatay; [Tuo, Youli](#); Ducci, Lorenzo; Baykal, Altan; Santangelo, Andrea, submitted to A&A

#### Presentations

- Unveiling the Dynamic and Energetic Universe with Insight-HXMT for Six Years and Beyond  
Zhuhai, China January 2024  
contributed talk: **Discovery of an Anti-glitch event in PSR B0540-69**
- 3rd China-India Workshop on High Energy Astrophysics August 2020  
invited talk: **HXMT data analysis demonstration**
- Beijing Astronomical Annual Meeting, Beijing, China November 2019  
contributed talk: **Temporal study on HMXB 4U 1901+03 observed by Insight-HXMT**
- The Second Insight-HXMT Users Conference and X-ray binary workshop, Beijing, China July 2019  
contributed talk: **Timing and spectral analysis using Insight-HXMT data** (Lecturing the usage of Insight-HXMT data analysis software)
- Insight-HXMT Users Workshop, Beijing, China December 2018  
contributed talk: **Quick tour to Insight-HXMT/HE data processing** (Lecturing the usage of Insight-HXMT data analysis software)
- New eyes on X-ray astrophysical objects with Japanese and Chinese observatories, the Japan-China X-ray astronomical workshop, Toyoko, Japan November 2018  
[contributed talk](#): **Insight-HXMT observations of newly discovered XRB SwiftJ0243.6+6124**

- Annual colloquium of Chinese astronomical society, Kuming, China October, 2018  
contributed talk: **Insight-HXMT observations of Crab pulsar**
- The 42ns COSPAR Scientific Assembly, Pasadena, USA July 2018  
[poster](#): nsight-HXMT observations of newly discovered XRB SwiftJ0243.6+6124

## Software Development

- **HXMT pipeline:** A pipeline tool that makes your life easier when analyzing HXMT data (used in multiple HXMT publications);
- **Pulsar analysis package:** The Python package to perform timing analysis on the X-ray pulsars (used in [GECAM timing calibration paper](#), [HXMT timing calibration paper](#), and [X-ray Binary paper](#));
- **SVOM/GRM burst analysis tool:** Python-based Gamma Burst Analysis Software for SVOM/GRM
- **HXMT Docker Container:** An integrated environment for Inishgt-HXMT data analysis (total 873 container pulls);
- **HXMT Burst Analysis:** A supplementary tool for correcting the saturation effect of LE telescope on-board HXMT;

## Outreach Experience

- One of the co-translators, translating *Physics for Entertainment, Book 1* to Chinese 2021

(last update: January, 2024)