YOULI TUO | 庹攸隶

Personal Information	Name: Youli TUO
	Current status: Postdoctoral Researcher
	Gender: Male
	Year of birth: 1993
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	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	2015.09–2020.09
	Ph.D degree in High Energy Astrophysics	
	Supervisor: Liming Song	
	Thesis title: Study of the high-energy properties of pulsars observed by Insight-HXMT	
	Yunnan University, Kunming, China	2011.09–2015.06
	Bachelor's degree in Mathematics and Physics	

Computer Skills

Operating systems: MacOS, Windows, GNU/Linux.

languages: Python, GNU Bash, C++

Scientific softwares HXMTDAS, heasoft, Xspec, TEMPO2, LaTeX

Research Interests

- Glitch phenomena in high-energy pulsars
- Timing and spectral observations of X-ray accreting pulsars
- Simulations and statistical analysis of instrumental effects in high-energy astrophysics

Refereed Publications
(† : 1st/2nd author)
NASA/ADS Library Link

There are 8 papers published as first/second author; 3667 citation in total, including 93 citations of the first/second-author publications.

18.† **Revisting the dead time effects of Insight-HXMT/ME**
Youli Tuo, Xiaobo Li, Ying Tan, Baiyang Wu, Weichun Jiang, Liming Song, Jinlu Qu, Sudeep Gogate, Shuang-Nan Zhang, Andrea Santangelo MNRAS 532, 4, 2024

17.† **Discovery of the linear energy dependence of the spectral lag of X-ray bursts from SGR J1935+2154**
Tuo, Youli; Serim, Muhammed Mirac; Antonelli, Marco; Ducci, Lorenzo; Vahdat, Armin; Ge, Mingyu; Santangelo, Andrea; Xie, Fei ApJL 967, L13, 2024

16. **Timing properties of the X-ray accreting pulsar RX J0440.9+4431 studied with Insight-HXMT and NICER**
Li, P.P.; Tao, L.; Tuo, Y.L.; Ge, M.Y.; Kong, L.D.; Zhang, L., ... and Guan, J., MNRAS, 526(3), 3637, 2023

15.† **Discovery of the linear energy dependence of the spectral lag of X-ray bursts from SGR J1935+2154**
Xiao Suo, Tuo Youli, Shuang-Nan Zhang, ..., and Ti-Pei Li, MNRAS 521, 5308, 2023

14.† **A Study on the X-Ray Pulse Profile and Spectrum of the Crab Pulsar Using NICER and Insight-HXMT's Observations**
Lin-Li Yan, You-Li Tuo, Ming-Yu Ge, Fang-Jun Lu, Shi-Jie Zheng, and Ling-Jun Wang, ApJ, 928(2), 183, 2022

13.† **In-orbit timing calibration of the Insight-Hard X-ray Modulation Telescope;**
Tuo Youli, Li Xiaobo, Ge Mingyu, ..., and Li Bing, ApJS, 259(1), 14, 2022;

12. **On-ground and on-orbit time calibrations of GECAM**
Xiao, S. Liu, Y. Q.; Peng, W. X.; An, Z. H.; Xiong, S. L.; Tuo, Y. L.;, ..., and Zhang, S. N., MNRAS 511, 964, 2022

11. **Synchronous X-ray/Optical QPOs from the Black Hole LMXB MAXI J1820+070**
Thomas, Jessymol K.; Buckley, David A. H.; Charles, Philip A., ..., Tuo, Youli, and Zhang, Shuang-Nan, MNRAS: Letters, 2021

10. **Relation of Cyclotron Resonant Energy and Luminosity in a Strongly Magnetized Neutron Star GRO J1008-57 Observed by Insight-HXMT**
Chen, X.; Wang, W.; Tang, Y. M.; Ding, Y. Z.; Tuo, Y. L.;, ..., and J.L. Qu, ApJ, 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 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 took 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);
- **GRB 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: August, 2024)