

4th ASO-S workshop: tutorial on ASO-S data



Welcome & Introduction

**Weiqun Gan, Chief scientist of ASO-S
Purple Mountain Observatory, CAS**

April 10-12, online

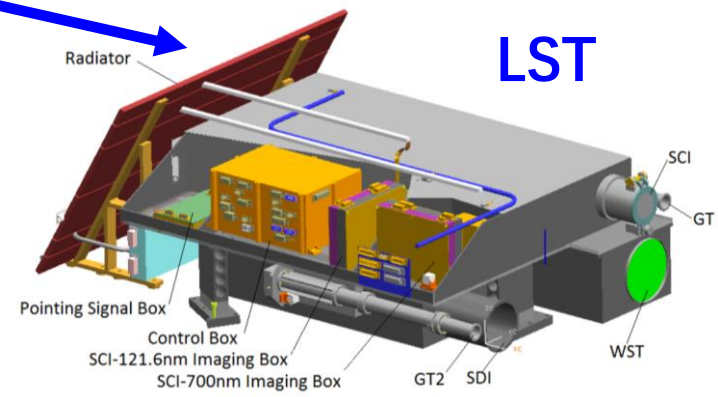
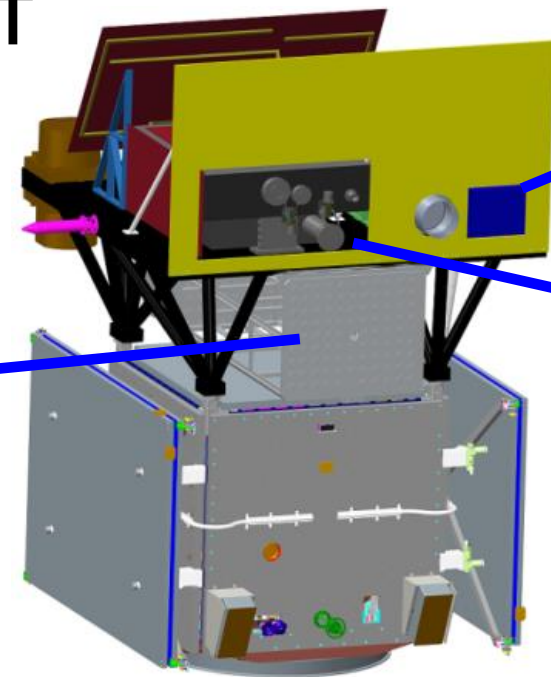
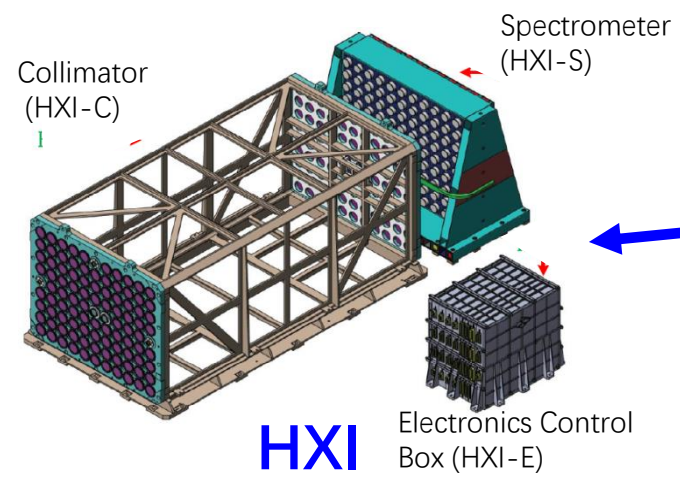
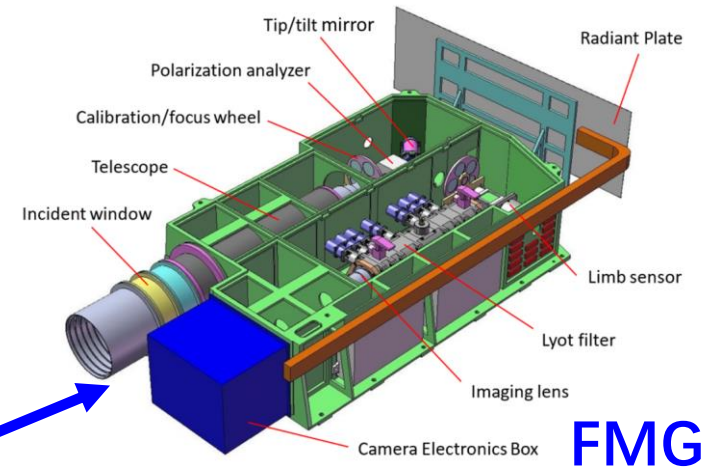
Outline



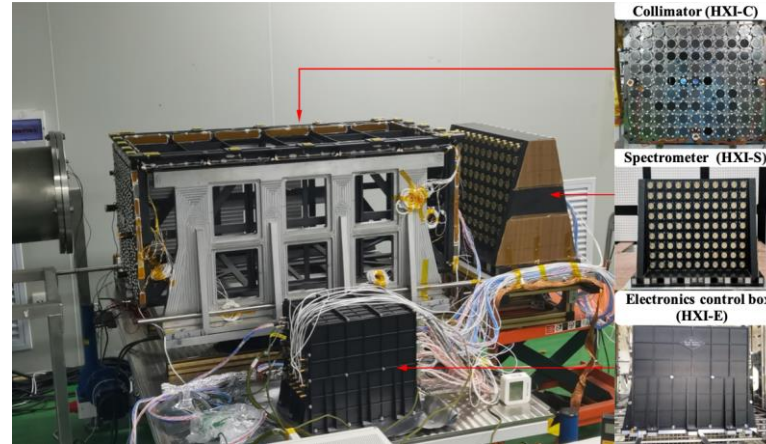
- **Mission briefs**
- **Current status of payloads in orbit**
- **Data release and limitations**
- **Data policy**
- **ASO-S Guest Investigator Program (AGIP)**
- **ASO-S special issue on Solar Physics**
- **Schedule of this workshop**

Mission briefs

- First comprehensive solar spacecraft in China
- Science goals: “1M2B”
- Payloads: FMG+HXI+LST



Mission briefs



FMG: Full disc vector Magnetograph **HXI:** Hard X-ray Imager(15-300keV)
Details see [Gan et al. 2019, RAA, 19, 157](#) and references in

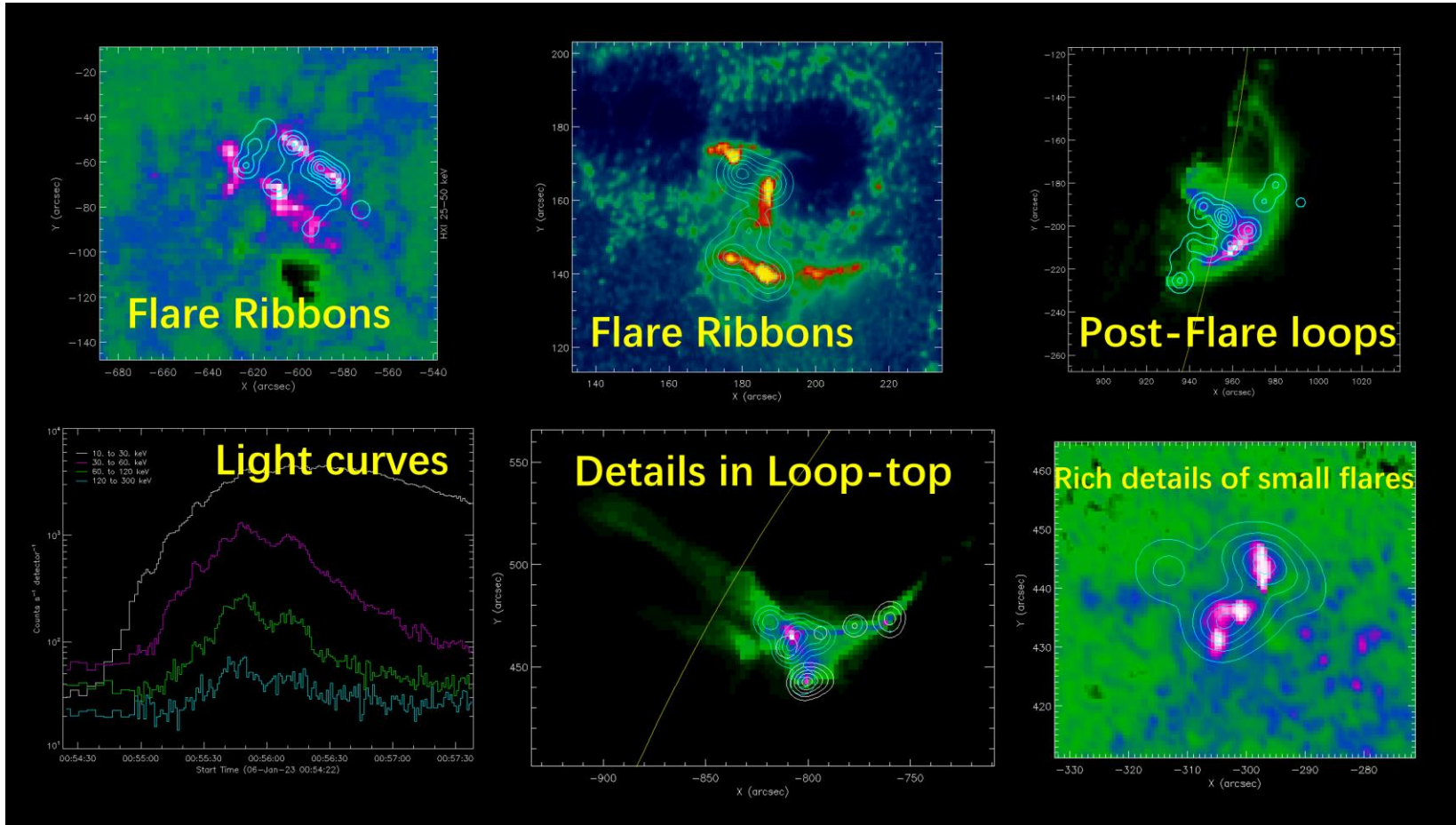
LST: Lyman-alpha Solar Telescope, includes WST, SDI, and SCI



ASO-S was successfully launched on Oct. 9, 2022



Current status of payloads in orbit

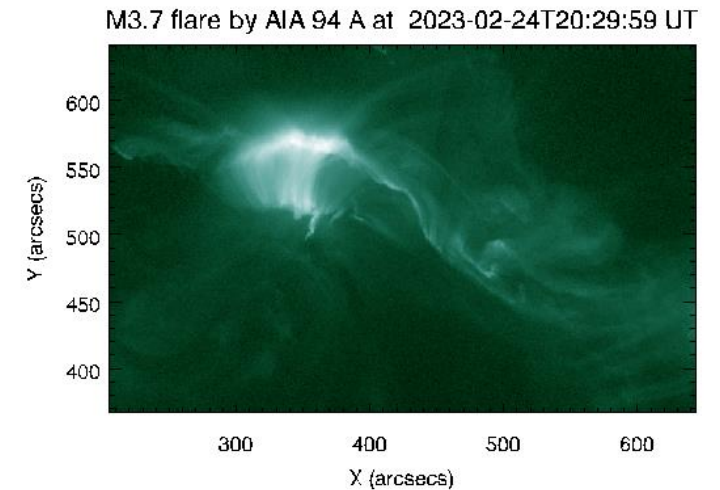
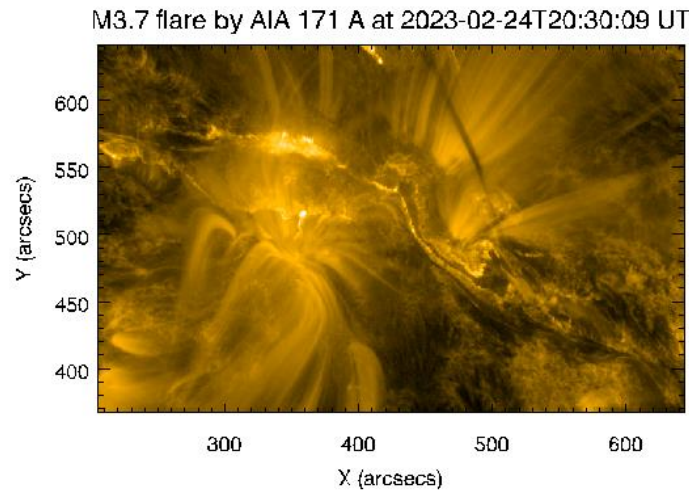
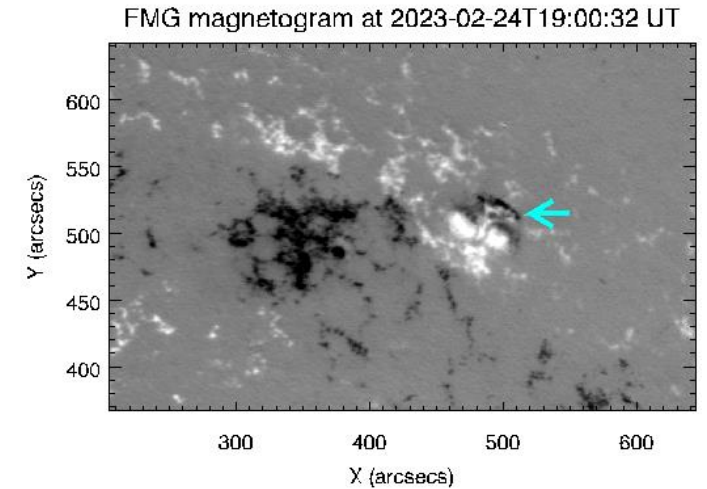
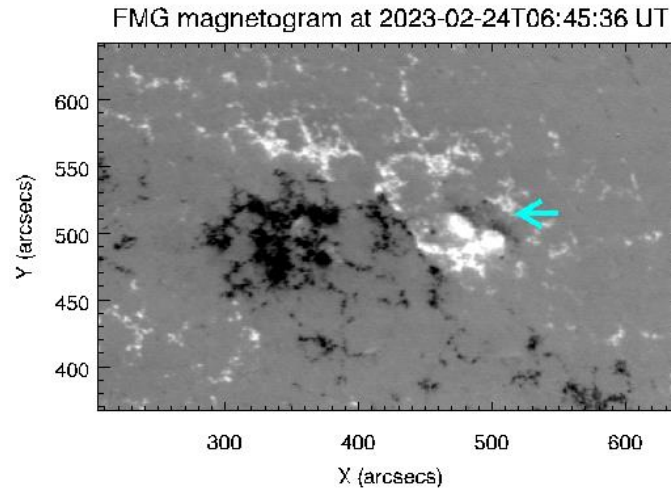


- **HXI:** it works very well, and its performance is exactly the same as or even better than that designed, like energy range, spatial resolution.....

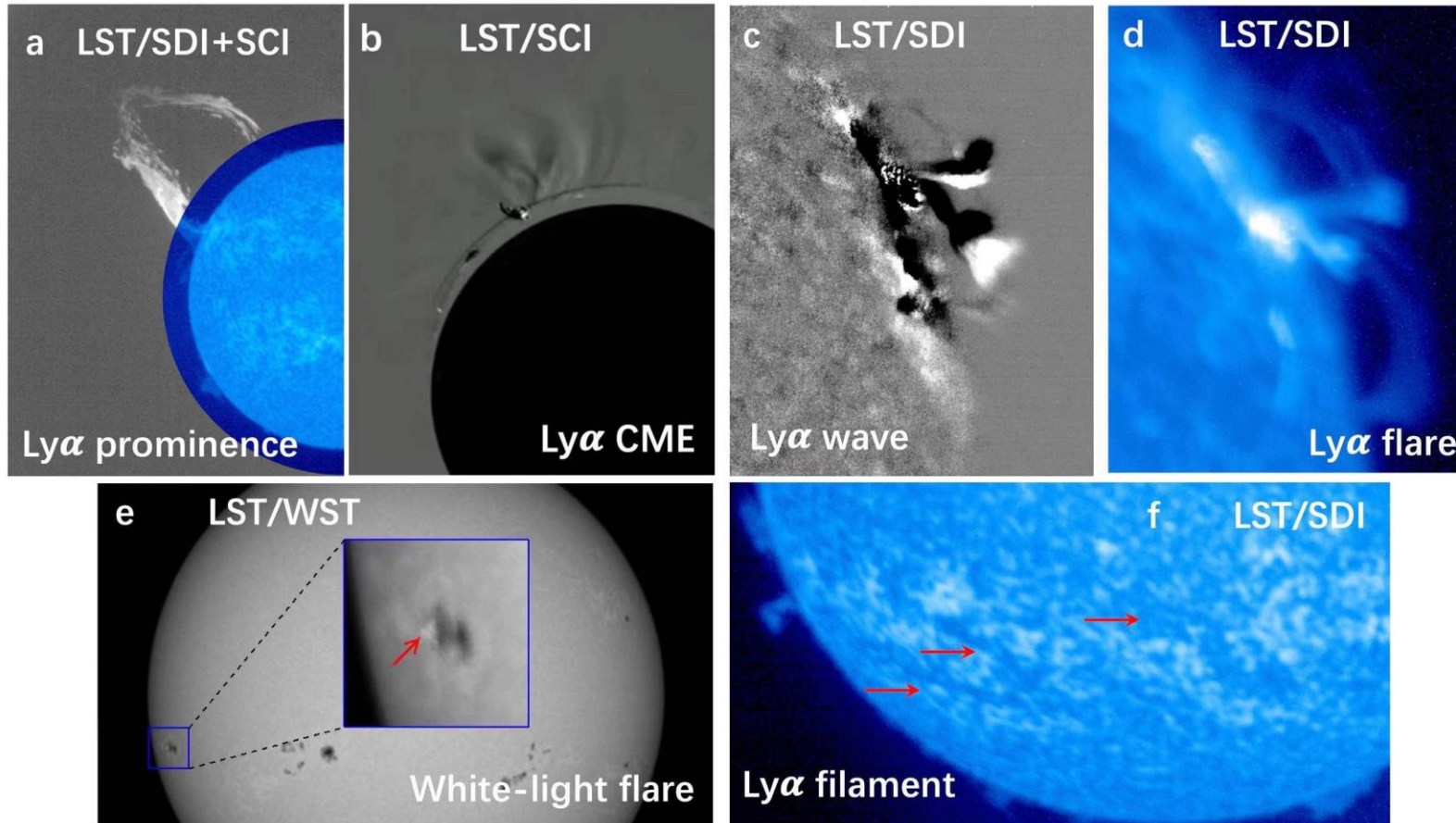
Current status of payloads in orbit



- **FMG**: B_{\parallel} obtained for a local region looks excellent! However, one of the liquid crystals doesn't seem to work as expected, resulting in the lack of B_{\perp} for the normal mode of observations. The quality of whole disc image is also influenced in some degree by a darker region.



Current status of payloads in orbit



- **LST**: WST and SDI work almost normally. At the moment, SCI doesn't work as expected, but in Lyman-alpha waveband it can observe eruptive prominences.

Data release and limitations



- **HXI:** 1) all the data observed since April 1, 2023;
2)* for the event data from the launch to March 31, **upon request** to the data scientist.
- **FMG:** 1) B_{\parallel} data for active/local region since April 1, 2023;
2) B_{\perp} and the full disc magnetic field can be obtained/observed only based on user application.
- **LST:** 1) the data observed by WST since April 1, 2023;
2) some SDI data for demo, the full data set since April 1, 2023 will come soon after full calibration;
3) the data from SCI temporally unavailable, but for a special event like EP the Lyman-alpha data could be consulted upon request.

* **the same as for FMG and LST**

** **Up to now, the commissioning phase has not yet officially been finished.**

Data policy



1. The scientific data of ASO-S mission are completely open to the community **except the data obtained during the mission commissioning phase and some of the engineering data**. All users have the same right to use the scientific data of ASO-S mission as the team members.
2. In order to have the best knowledge of the instrumentation and meaning of the data, **users when writing papers are encouraged to collaborate with team members (one is enough), who might be the payload data scientist, payload scientist, or any of team members listed on the homepage of ASO-S mission, especially for the first two years of the mission.**
3. All the scientific data, calibration and processing software, usage documentation, and update information are provided via the ASO-S homepage at http://aso-s.pmo.ac.cn/en_index.jsp. Browse and quick-look products are not intended for science analysis and publications.

Data policy



4. Users are suggested to acknowledge the sources of data used in all publications as "**ASO-S mission is supported by the Strategic Priority Research Program on Space Science, the Chinese Academy of Sciences, Grant No. XDA15320000**". The use of ASO-S images, animations and videos for non-commercial purposes and public outreach efforts is strongly encouraged. It is requested, however, that any such use should mention explicitly the source from the ASO-S mission.

5. Any software contributions to the data processing and analyzing by the users are welcome. The payload data scientists are the corresponding persons to contact.

See also at <http://aso-s.pmo.ac.cn/english/data/datapolicy.jsp>

ASO-S Guest Investigator Program (AGIP)



Why: ASO-S, being the first comprehensive solar spacecraft in China, was successfully launched on October 9, 2022. After 6-month commissioning phase, the mission is now in scientific operation stage. The instruments onboard work mostly well (except coronagraph) and the data have been released to the community in April, 2023. In order to encourage the users to make use of the ASO-S data, enhance the scientific return, and promote closer international cooperation, ASO-S team releases now the ASO-S Guest Investigator Program (AGIP) to the worldwide solar community.

What: **Each year AGIP could support up to 12 researchers, each of who is suggested to visit for 2-3 months the Science Operation and Data Center (SODC) of ASO-S at Purple Mountain Observatory in Nanjing.** During this period of time, the visitors can perform independent researches or cooperated researches, based on or related to ASO-S data.

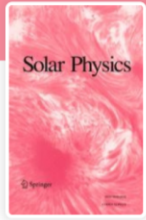
ASO-S Guest Investigator Program (AGIP)



How: AGIP will support each guest investigator with a competitive **allowance**, in addition to the international **travel fees** and partial **lodging assistance**. Besides a resume, the intended applicants should write **one to two pages** for his/her research plan and the desired period of visit. We encourage applicants to provide a potential cooperater in the ASO-S team where appropriate. The submission time should be at least three months earlier than the proposed visit time, so that to leave enough time for preparations. The selection for the application is based mainly on the scientific merits, together with research experience and feasibility. Young students are also welcome. Normally we evaluate applications once by bimonthly, i.e., we inform the results within a maximum of two months. For the highly qualified applicants, we will inform the result within two weeks from receiving the applications. There is **no application deadline** for the initial two years till the end of 2024. Please send your application or enquiry to Dr. Weiqun Gan (current chief scientist of ASO-S) at wqgan@pmo.ac.cn.

Please see: http://aso-s.pmo.ac.cn/english/science/asos_gip.jsp

ASO-S special issue on Solar Physics



Solar Physics

A Journal for Solar and Solar-Stellar Research and the Study of Solar-Terrestrial Physics

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[ASO-S Mission: Inflight Performance and First Results](#)

The Advanced Space-based Solar Observatory (ASO-S) was launched on October 9, 2022, opening the era of comprehensive solar space observation in China. The mission aims at exploring connections among solar ma...

Wei-Qun Gan

Submission status

Open

Submission deadline

31 December 2023



A special issue collection “**ASO-S Mission: inflight performance and first results**” is opened at Solar Physics. Welcome the users of ASO-S data to submit the latest research to the issue before the end of 2023!

Schedule of this workshop



Day 1 (hosted by Hui Li)

1. Welcome and Introduction (15min.) —— Gan, W. Q. (Chief scientist of ASO-S)
2. ASO-S Science Operation & Data Center (15 min.) —— Yu Huang (Chief scientist assistant)
3. Introduction on Website and Software Installation (30 min.) —— Yingna Su (in charge user service)
4. HXI Data and Software (1h) —— Yang Su (HXI data scientist)
5. FMG Data and Software (45 min.) —— Suo Liu (FMG data scientist assistant)
6. LST Data and Software (1h) —— Li Feng (LST data scientist)

Day 2 (hosted by Yingna Su)

Practice and Q&A (2.5h) —— Qingmin Zhang, Dong Li, Yingna Su (key members of ASO-S team)

Welcome to attend this tutorial and join ASO-S!