

To Vandana Desai, Tom Green, and the IRSA team,

The IRSA User Panel met on February 27 and March 6 2026.

The role of the User Panel is to evaluate IRSA's content and services from the user's perspective, advise on the priorities for ongoing/planned activities, and to suggest improvements or new services not covered in the current work plan. The members of the Panel attending the meeting were: Federica Spoto (Harvard & Smithsonian), Michael Blanton (New York University/Carnegie Observatories), Adam Ginsburg (chair; University of Florida), Melinda Soares (UW Madison), Konstantin Malanchev (Carnegie Mellon University), Patrick Ogle (STSCI), Gregory Rudnick (University of Kansas). The meeting was scheduled for 6 hours split over two days and consisted of presentations from Vandana Desai, Luisa Rebull, Anastasia Laity, Trey Roby, Troy Raen, Jessica Krick, Jaladh Singhal, Mike Jones, and Brigitta Sipőcz on the various activities of IRSA and live discussion time among the panel. In this letter, we summarize comments and suggestions from the User Panel.

The panel commends IRSA on their efforts broadly. In general, the panel was impressed with the degree of improvement and the consistent and rapid development that meets the needs and requirements of the missions they serve and the needs of the users.

We were particularly pleased at the degree of collaboration between IRSA and other archives. It was evident that IRSA is devoting the concerted effort needed to bring together data sets as the astronomical community enters the era of data platforms. The efforts IRSA is dedicating to implementing usable access to IVOA-established standards and the support they give to both backend machinery (like implementing IVOA standards on both server side and in pyvo) and user-facing frontends (like astroquery) is highly valued.

The Fornax platform seems overall well thought out and the early beta developments look promising. We suggest that particular attention be paid to critical use cases that are not yet supported or in the support road map: asynchronous job execution and non-browser access to the platform. Many of the largest user analysis tasks will require long-running or high-resource jobs that are not well-supported by web-based on-demand access. Some of the astronomy community already uses cloud platform analogs in their work with high-performance computing (HPC), so a clear path to onboarding users is to ensure that access modes supported by HPC platforms, such as ssh connections and third-party tunnels, are also supported by Fornax.

IRSA has been keeping abreast of technological developments impressively. The tool suites and documentation are well integrated, use modern approaches, and generally impressed the panel. The use of jupyter notebooks for self-documenting code and tutorial writing sets a good example for the community and clearly demonstrates how to use tools from the astronomical

community's ecosystem on the new science platforms. The integration between IRSA tools and the astropy ecosystem was evident throughout the presentations and is lauded. The efforts to integrate LLMs as frontends to the documentation are a good experimental step. We particularly appreciated the emphasis on ensuring that the LLM frontend returns trustworthy, validatable answers. Generally, we felt that IRSA has demonstrated a good balance between supporting missions and serving their primary functional role as an archive with developing the new technologies needed for the archive to be useful to the community.

The efforts to make large data available on the cloud was appreciated. Cloud access to HATS catalogs was noted as an important development that speeds and eases user access to these data sets.

The panel requests additional information on how IRSA is being used. Usage statistics, when available, and rough summary of helpdesk traffic would help the committee provide detailed feedback in future meetings. These data should be loosely used to guide development, either highlighting where additional promotion or development is needed or where IRSA has already solidified itself as a clear leader.

We would also appreciate it if future presentations included brief summaries of community training efforts, like workshops, webinars, etc., which we understand IRSA is conducting regularly.

There are some areas where IRSA could improve accessibility. The panel found that several of the IRSA interfaces were clunkier than competitors and had some specific suggestions for improvements. IRSA's frontpage today is very much an archive's frontpage, but IRSA already does much more than serve data - it provides a wide range of analysis and visualization tools and, soon, a data analysis platform. A simplified and modern-looking interface at the frontpage, perhaps analogous to ADS or ESASky, would help bring in users. Firefly is an incredibly powerful tool, but users are often daunted by its complexity. The efforts to train the community at AAS meetings and via video recordings is commended, and the willingness of staff to engage in direct training is wonderful, but these tools are still not getting quite the attention and adoption they deserve. Suggestions considered by the panel include adding a firefly logo to help highlight when firefly is the underlying technology beneath other viewers (e.g., data.lsst.org or in Jupyter), further simplifying the interface (a la ESASky), and encouraging use as a standalone package.

Due to the growing demand from time-domain surveys, we recommend improving data access interfaces for light-curve data. The Firefly, astroquery, and Fornax access and visualization interfaces could be enhanced to better support multi-survey, multi-band datasets. This should include surveys hosted or planned to be hosted by IRSA, and it would be a positive if data provided by other archives could be served.

IRSA's documentation targeted at research astronomers is solid, though complex. The efforts to provide trustworthy LLM indexing of the documentation is a valuable attempt to reduce this complexity. Effort should also be dedicated to community training focused at young students

(senior undergraduates and junior graduates engaging in research for the first time) to enable onboarding and encouraging broader use of IRSA. The panel suggests adding explicit support for classroom use of Fornax, possibly mediated through group-level access provided via the faculty sponsor.

Thank you,
Adam Ginsburg

A handwritten signature in cursive script that reads "Adam Ginsburg".

on behalf of the IRSA User Panel

Federica Spoto, Michael Blanton, Melinda Soares, Konstanin Malanchev, Patrick Ogle, and Gregory Rudnick