

# About HLSPs

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## Definition

Members of the scientific community are encouraged to contribute collections of science data products to the Mikulski Archive for Space Telescopes (MAST). Such contributions can be made widely available to the public as High-Level Science Product (HLSP) collections. HLSPs are contributed in the form of data and ancillary products which:

- Are related to a common science theme
- Have high potential for use by other research groups for new science
- Are not available in another permanent archive
- Have been used by the contributing team and are described in a refereed paper
  - A formal paper establishes data provenance and serves as a measure of quality control
  - A citable reference is essential for assessing the science impact of the HLSP collection
- Are derived from or are closely connected to missions hosted by MAST



An HLSP collection may include science products from observing facilities other than those currently hosted by MAST, provided they are scientifically closely related to a hosted mission.

The contributed science products may include one or more of:

- Images
- Spectra
- Source catalogs
- Light curves
- Maps
- Simulations or models

Other kinds of products or visualizations may be suitable as well: contact MAST to discuss your proposed data products.

HLSP contributions are reviewed for scientific content, the potential for follow-on research by other researchers, and for compliance with the contribution criteria described on these pages before the collection is accepted for incorporation in MAST. See the [How-To](#) guide for instructions on contributing an HLSP collection to MAST.



Contributions of HLSP collections are now a requirement for the HST and JWST Treasury (GO) and Legacy (archival research) programs.

## Benefits of Contributing HLSPs

Most HLSP collections have enjoyed a significantly higher level of visibility and use in the community than the standard data products from individual missions. The follow-on research that is enabled for the community with HLSPs increases the scientific impact of both the collection and the mission (s) from which they originate, and contributing scientists enjoy higher recognition and citation rates from HLSP-related papers than is typical for individual mission programs. There are other benefits as well:

- The collection will be hosted by MAST in a permanent archive.
- The data products will be integrated with other MAST data collections and offered widely to the public subject to a [CC BY 4.0 license](#), which requires that users acknowledge the contributors and MAST in any published work.
- Hosting the data collection at MAST generally satisfies requirements on NASA-funded research for long-term preservation of, and access to, digital scientific data. (See [Public Access to Results of NASA-Funded Research](#).)
- The collection provenance will be preserved for future researchers.
- The data products will appear in the results of queries of the MAST holdings that match the position, product type, or other search parameters.
- The collection will be featured in a dedicated part of the MAST web presence.
- MAST will create a persistent digital object identifier ([DOI](#)) for the data products in your collection if one does not already exist.



### Cite HLSPs with DOIs

A DOI created for your HLSP data collection should be inserted directly into your descriptive paper at the time you submit it to the journal. We also encourage other investigators who make use of your HLSP collection to also include that [DOI reference](#) in their journal paper. See AAS Journal Reference Instruction

## For Further Reading...

- [HLSP How-To Guide](#)
- [Published HLSP collections](#)
- [View the library of HLSP primary descriptive papers](#)
- [AAS Journal Reference Instructions](#)