


# IPAC Archive Holdings

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## Why?

- The “I” in NITARP stands for “IPAC”, the Infrared Processing and Analysis Center, based at Caltech.
- IPAC houses several different archives, each with their own goals, methodology, tools, staff, (and sometimes science goals).
- As NITARP educators, you will learn about at least one of our data sets in great detail, but the rest of IPAC’s holdings may also prove useful to you in your NITARP project.
- There are also upcoming data releases that may be useful to you in your future (post-NITARP) work.
- Every one of these archives has a booth here at the AAS – go seek them out! There are more archives too...

# NED




- NED = NASA/IPAC Extragalactic Database
- Focused on extragalactic science.
- Ingests catalogs and literature tables.
- 163.2 million unique objects!
- Myriad cross-links, notes, etc.
- Updates every few months.
- <http://nedwww.ipac.caltech.edu/>

NASA/IPAC EXTRAGALACTIC DATABASE

Latest updates to NED content and interface (December 2010)

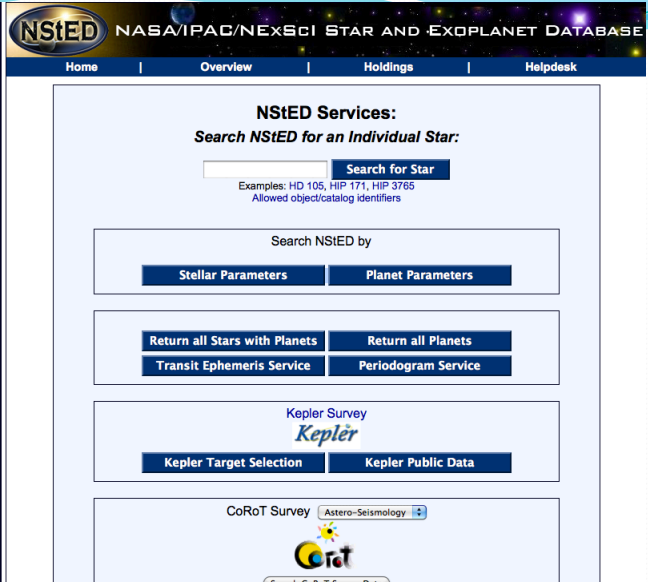
- Over 2.4 million new database entries
- Additions to Level 5, including "Extreme Star Formation" (I. Turner 2010)
- 2,658 Images from the Spitzer Local Volume Legacy program (Dale et al. 2010)
- Major updates to Redshift-Independent Distances (NED-D)
- 229,734 Classifications and Attributes added for 108,003 objects
- Attributes now include Distance Indicators, Kinematics, and Hierarchy
- Query reports now contain Quick-look Photometry and Derived Luminosities
- New services build User-Customized Data Tables from Input Lists

OBJECTS	DATA	LITERATURE	TOOLS	INFO
By Name	Images By Object Name or By Region	References by Object Name	Coordinate Transformation & Extinction Calculator	Introduction Latest News/Updates
Near Name	Photometry & SEDs	References by Author Name	Velocity Calculator	Features FAQ
Near Position	Spectra	Text Search	Cosmology Calculators	Overview (pdf)
IAU Format	Redshifts	Knowledgebase	Extinction-Law Calculators	Source List
By Parameters (All-Sky)	Redshift-Independent Distances	Galaxy Distance Tabulations (NED-D)	Skyplot	Web Links
By Classifications Types, Attributes	Classifications by Object Name	Abstracts	X/Y offset to RA/DEC	Glossary & Lexicon
By Refcode	Positions	Thesis Abstracts	Batch Job Submission Batch Job Results	Team



## NSTED

- NASA/IPAC/NExSci Star and Exoplanet Database.
- Focused on stars, particularly those harboring exoplanets, or being studied to see if they harbor exoplanets.
- Data related to 140,000 bright nearby stars, including all known planet-hosting stars.
- Includes Kepler data, and US portal to CoRoT data.
- Online tools to work with these data, like the periodogram service.
- <http://nsted.ipac.caltech.edu/>



**NSTED** NASA/IPAC/NEXSCI STAR AND EXOPLANET DATABASE

Home | Overview | Holdings | Helpdesk

**NSTED Services:**  
**Search NSTED for an Individual Star:**


**Search for Star**  
 Examples: HD 105, HIP 171, HIP 3765  
 Allowed object/catalog identifiers

Search NSTED by



**Stellar Parameters** **Planet Parameters**

**Return all Stars with Planets** **Return all Planets**  
**Transit Ephemeris Service** **Periodogram Service**

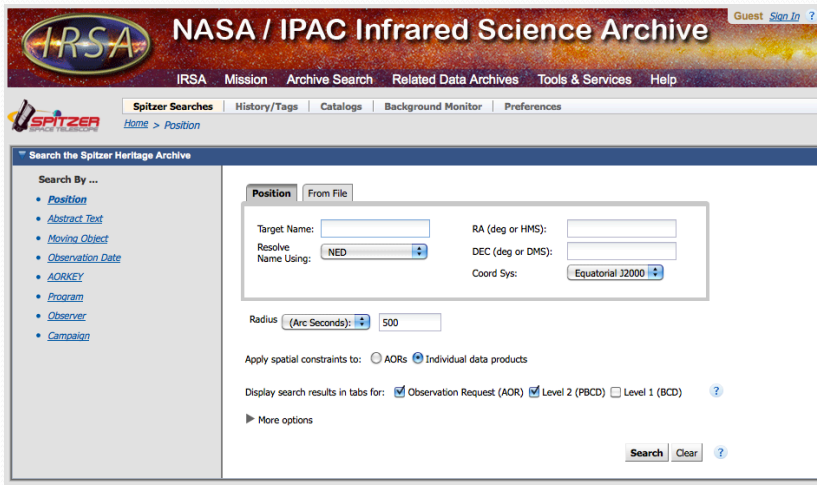
Kepler Survey  
*Kepler*  
**Kepler Target Selection** **Kepler Public Data**

CoRoT Survey Astero-Seismology  


# Spitzer

- Spitzer is both an active mission and no longer an active mission. It is in transition to having its entire archive be available through IRSA (next main topic).
- Those of you not using Kepler data will be using Spitzer data, so you will get more of an introduction to Spitzer in the context of your programs.
- Spitzer's data are available from the Spitzer Heritage Archive (SHA).
- It is the testbed for a new “look and feel” for all of IRSA's holdings, and may strongly influence the rest of IPAC's holdings.



The screenshot shows the NASA/IPAC Infrared Science Archive (IRSA) website. The main header includes the IRSA logo and the text "NASA / IPAC Infrared Science Archive". Below the header is a navigation menu with links for "IRSA", "Mission", "Archive Search", "Related Data Archives", "Tools & Services", and "Help". A secondary menu includes "Spitzer Searches", "History/Tags", "Catalogs", "Background Monitor", and "Preferences".

The main content area is titled "Search the Spitzer Heritage Archive". On the left, there is a "Search By ..." section with a list of search criteria: Position, Abstract Text, Moving Object, Observation Date, AORKEY, Program, Observer, and Campaign. The "Position" option is selected.

The search form includes the following fields and options:

- Position** (selected) / From File
- Target Name:
- RA (deg or HMS):
- Resolve:
- DEC (deg or DMS):
- Name Using:
- Coord Sys:
- Radius (Arc Seconds):
- Apply spatial constraints to:  AORs  Individual data products
- Display search results in tabs for:  Observation Request (AOR)  Level 2 (PBCD)  Level 1 (BCD)
- [More options](#)
- [?](#)

## IRSA



- IRSA = NASA/IPAC Infrared Science Archive
- Charter is to provide interface to all NASA infrared and sub-mm data sets.
- Some are small (e.g., Spitzer Legacy programs), and some are VERY large (all-sky surveys).
- IRSA datasets are cited in about 10% of astronomical refereed journal articles

## Some IRSA holdings

- Infrared Astronomy Satellite (IRAS) – the first all-sky mid- and far-IR survey.
- **Two Micron All-Sky Survey (2MASS)** – a deep, uniform all-sky survey at J, H, and Ks.
- **Spitzer Space Telescope** – 3-160 microns (see earlier slide).
- Balloon-borne Large Aperture Submillimeter Telescope (BLAST) – a prototype of Herschel's SPIRE camera flown on a balloon in 2005-2006.
- Cosmic Evolution Survey (COSMOS) - a multiwavelength survey of a 2 sq. degree field involving every Great Observatory as well as ground-based data.
- BOLOCAM – a millimeter wavelength bolometer array at the Caltech Submillimeter Observatory.
- AKARI – a Japanese IR telescope that surveyed the whole sky at 9-160 microns.
- Midcourse Science Experiment (MSX) – a mid-IR telescope that mapped the Galactic plane and the gaps in the IRAS all-sky coverage.
- Infrared Space Observatory (ISO) – US interface to the ESA archive for ISO.

## Upcoming IRSA releases

- Planck = ESA mission, all-sky survey at 30 to 857 GHz (1 cm to 350 microns). US interface to data. First release this week!
- WISE = Widefield Infrared Survey Explorer – all-sky survey at 3-23 um. First release Apr 2011!
- More smaller data sets all the time.
- New ones will look like SHA, and old ones will eventually be retrofitted.

## Summary

- LOTS of data available to you RIGHT NOW.
- Everything is web-based. Most are intuitive (I hope). Most have on-line help.
- Many have some related material on the NITARP wiki.
- All of these archives have booths here at the AAS.
- You will learn more about archives specific to you as you work on your project, but don't be afraid to branch out and go exploring!