

Remote Data Exploration with the Interactive Data Language



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Identification and Significance of Innovation

How to access vast amounts of data produced by NASA missions?

- Use the DAP open standard in the familiar environment of IDL.

IDL: data analysis tool widely used in NASA missions

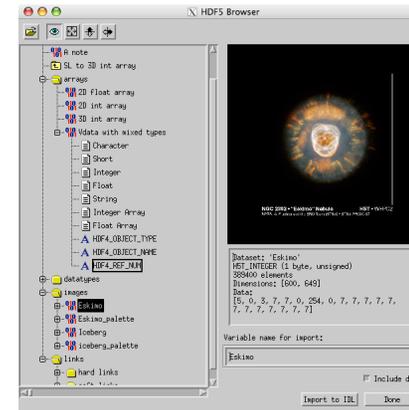
- IDL's DAP bindings are incomplete.

Innovation:

- Improve tools to enable IDL to access sections of large datasets
- Provides same coding interface for open-source GDL
- Targets novice and expert IDL programmers

Significance:

- Scientists get access to open standard for remote data access in a familiar environment



Innovation enables data exploration of remote data.

Technical Objectives

- Determine the best method to access remote data in a user-friendly manner.
- Determine the best way to enhance interactive analysis of remote data.

Work Plan

- Task 1: Improve DAP bindings for IDL and GDL.
- Task 2: Create a DAP data explorer application in IDL.
- Task 3: Demo the use of the DAP bindings and data explorer application on NASA data
- Task 4: Investigate methods for custom remote functions.
- Task 5: Write a final report

NASA Applications

- IDL widely used throughout NASA
- Accessing large amounts of data for processing and visualization is a common problem

Non-NASA Applications

- IDL widely used in academia, industry, national labs
- Data analysis in various areas can benefit from accessing remote data, e.g. remote sensing, medical imaging, chemical engineering

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