# ViTables
## Browsing HDF5 Data with PyTables

Vicent Mas

Cárabos Coop. V.

HDF Workshop November 30, 2005 - December 2, 2005.

# Outline

## Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

## Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

# Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

# Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

## Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

## Overview

- A member of the PyTables family.

- Written in Python and PyQt.

- Usability matters.

- It deals efficiently with very large datasets.

- It is not a dataset editor.

- It is not an image viewer.

# Interactive Session

# Capabilities

## Browsing and editing

- Display data hierarchy as a fully browsable object tree.
- Display data and metadata for files and nodes.

- Can deal with both numerical arrays and records.
- Display multidimensional table cells.

- File creation and saving under a different name.
- Editing nodes is fully supported.

# Capabilities

## Browsing and editing

- Display data hierarchy as a fully browsable object tree.
- Display data and metadata for files and nodes.

- Can deal with both numerical arrays and records.
- Display multidimensional table cells.

- File creation and saving under a different name.
- Editing nodes is fully supported.

# Capabilities

## Browsing and editing

- Display data hierarchy as a fully browsable object tree.
- Display data and metadata for files and nodes.

- Can deal with both numerical arrays and records.
- Display multidimensional table cells.

- File creation and saving under a different name.
- Editing nodes is fully supported.

## More capabilities

- Ability to manage files with a large number of nodes.

- Display very large datasets stunningly fast.

- Query support for tables.

- Editing attributes is supported.

# More capabilities

- Ability to manage files with a large number of nodes.

- Display very large datasets stunningly fast.

- Query support for tables.

- Editing attributes is supported.

# More capabilities

- Ability to manage files with a large number of nodes.

- Display very large datasets stunningly fast.

- Query support for tables.

- Editing attributes is supported.

## More capabilities

- Ability to manage files with a large number of nodes.

- Display very large datasets stunningly fast.

- Query support for tables.

- Editing attributes is supported.

## Comparison with other tools

|                          | Array Viewer | HDFView | ViTables |
|--------------------------|--------------|---------|----------|
| Table with 10^6 rows (96 bytes records) | | | |
| Opening (s)              | ~44          | -       | <1       |
| RSS (MB)                 | ~46          | -       | ~26      |
| Table with 10^9 rows (28 bytes records) | | | |
| Opening (s)              | -            | -       | <1       |
| RSS (MB)                 | -            | -       | ~27      |

Opening times are given in seconds.
RSS (non-swapped physical memory that a task has used) is given in MBs.

## Summary

- ViTables is multi-platform application.
- It can manage really large datasets and browse them stunningly fast.
- It can also efficiently manage files with a large number of nodes.

- Plans for the future
  - Get users feedback.
  - CSTables support.
  - A Python shell.