

Steamshovel : an IceCube event viewer

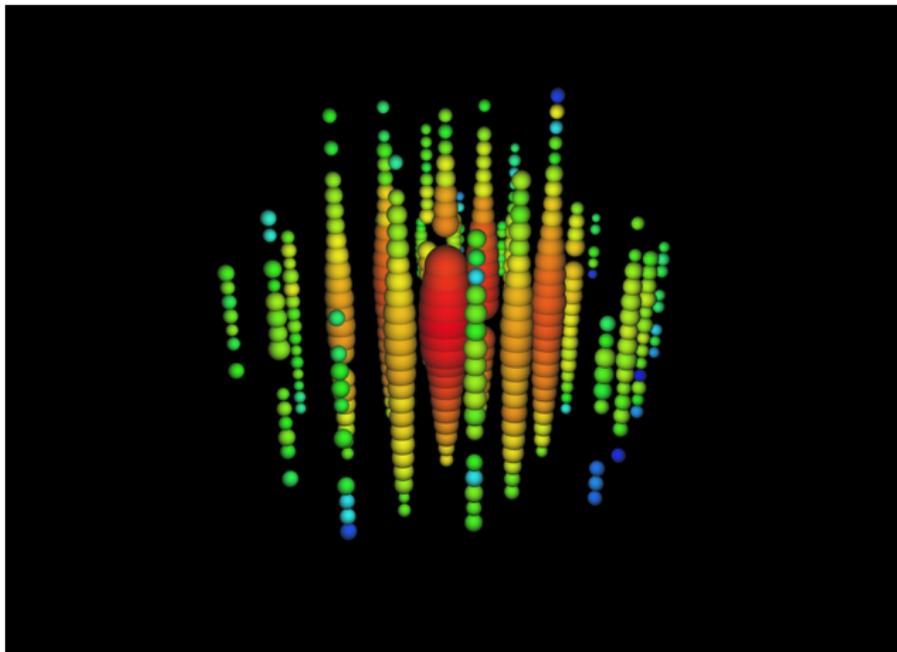
Making pretty pictures!

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IceCube Collaboration Meeting
9 May 2013

Steamshovel

A graphical tool to visualize and explore IceCube data.



Steamshovel features

- ▶ High-quality visual output, suitable for publication and outreach
- ▶ Can include Matplotlib plots
- ▶ Scriptable with Python
- ▶ Easy to add new types of visualization
- ▶ Runs on OSX and Linux, reads .i3 data files

When is it coming?

Work started on Steamshovel after the Aachen meeting.

- ▶ Today: brave alpha testers
- ▶ Early summer: beta test, code review

I will make Steamshovel available as an OSX application as soon as practical.

How to learn more?

- ▶ Listen on dataclass @ `icecube.wisc.edu`
- ▶ Check out `http://code.icecube.wisc.edu/svn/sandbox/sjackso/steamshovel`

Simple muon visualization

The screenshot displays the Steamshovel application window. The main visualization area, titled "IceCube I3Frame Inspector", shows a dark background with numerous vertical lines representing muon tracks. These tracks are populated with small colored dots in shades of blue, green, yellow, and red, indicating different muon events or properties.

Below the visualization, there are several control panels:

- Event Time Range:** "Set event times by: Event start: 0" and "Event end: 40000".
- Color Mapping:** A dropdown menu set to "Default" and a color bar with a red dot on the left and a blue dot on the right, with the value "16546" displayed above it.
- Display and Source Controls:** A panel with tabs for "Displays" and "Sources". Under "Sources", a list of items is shown:
 - Detector Geometry (I3Geom...
 - Time label
 - Ice
 - Accumulated charge (I3Geo...Buttons for "Add..." and "Remove" are located below the list.
- Navigation and Playback:** A panel with playback options:
 - Loop
 - This frame
 - Show Timeline
 - All P frames
 - All framesNavigation buttons for first, previous, next, and last are also present.

Simulated data

The screenshot displays the Steamshovel application window. The main visualization area shows a 3D plot of simulated data points, with a central cluster of red and orange points and other scattered points in green, yellow, and blue. The plot is overlaid with a grid of vertical lines. The interface includes a top menu bar with 'IceCube' and 'I3Frame Inspector' tabs. On the right, there is a text area with documentation for IPython 1.0.dev and various shortcuts like %quickref, %help, %object?, and %guieref. Below this is a 'Displays' and 'Sources' panel with a tree view under 'Artists' containing items like 'Detector Geometry (I3Geom...', 'Time label', 'Ice', '3 Settings', 'Accumulated charge (I3Geo...', 'I3Geometry', 'OfflinePu...', and '2 Settings'. At the bottom, there are controls for 'Set event times by:' with 'Event start: 0' and 'Event end: 40000', a 'Color mapping:' slider with a red and blue marker, and a 'Show Timeline' button with navigation arrows.

Steamshovel

IceCube I3Frame Inspector

type copyright, credits or "license" for more information.

IPython 1.0.dev -- An enhanced Interactive Python.

? -> Introduction and overview of IPython's features.

%quickref -> Quick reference.

%help -> Python's own help system.

%object? -> Details about 'object', use 'object??' for extra details.

%guieref -> A brief reference

Displays Sources

Artists

- Detector Geometry (I3Geom...
- Time label
- Ice
 - 3 Settings
- Accumulated charge (I3Geo...
 - I3Geometry
 - OfflinePu...
 - 2 Settings

Add... Remove

Loop This frame

Show Timeline All P frames All frames

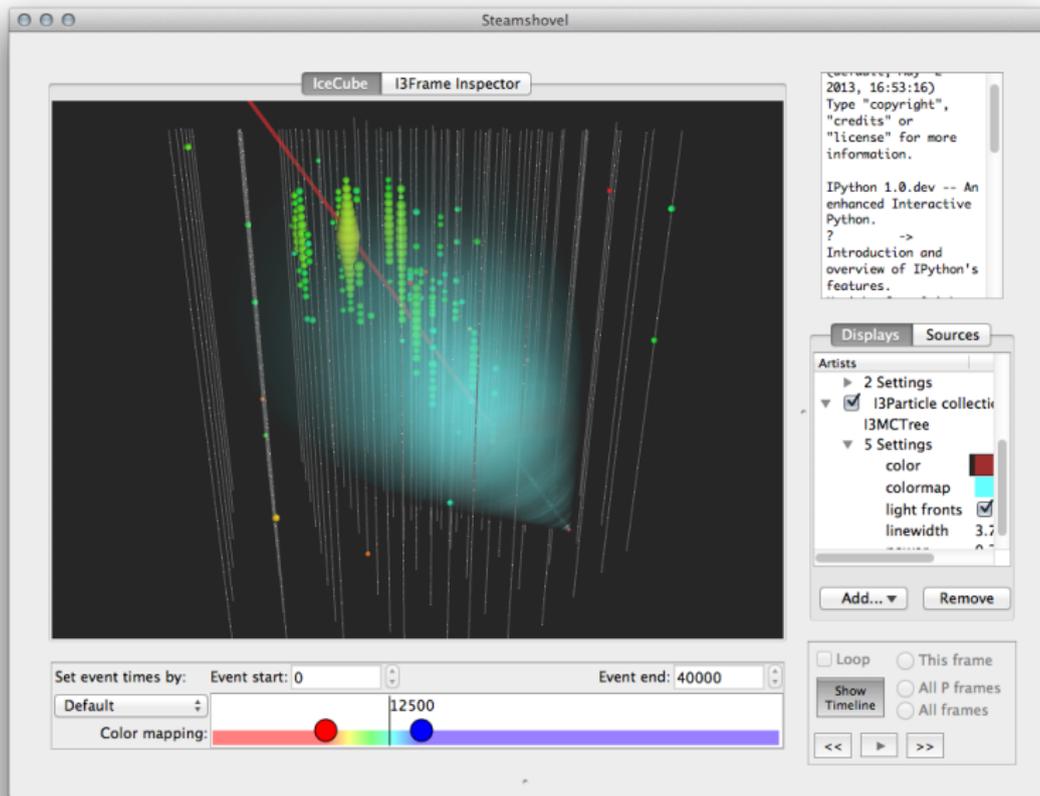
<< >>

Set event times by: Event start: 0 Event end: 40000

Default 18314

Color mapping:

Simulated data with Cherenkov cone



Big Bird

