

# I3File Tools and Visualization

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IceCube Bootcamp

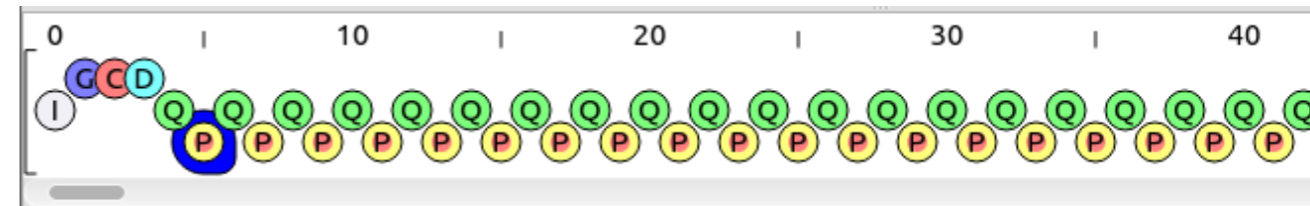


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# Different types of frames

Frames are Identified by a letter



Metadata (usually once per file)

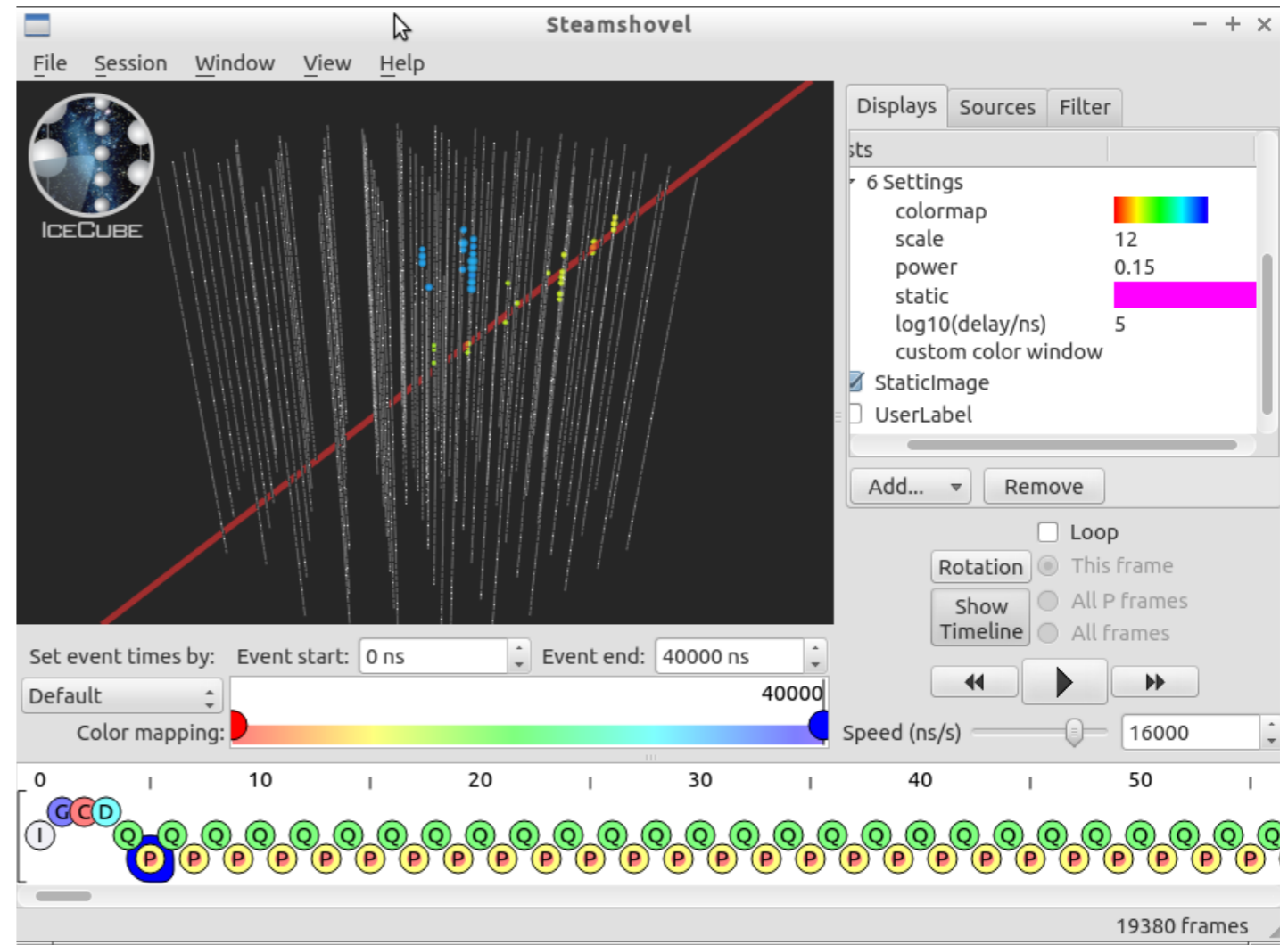
- “I” (TrayInfo): contains processing information of the current file
- “G” (Geometry): Coordinates of each DOM
- “C” (Calibration): Contains calibration on photomultiplier tubes
- “D” (Detector Status): Information about the how the DOMs were configured for this specific run

Event Info: ( ~10 us of data)

- “Q” (DAQ): Waveforms recorded for this event
- “P” (Physics): High level pulse information and reconstructions

# Steamshovel

Tool for 3D visualization of IceCube events in a GUI



To Use

1. First enter the IceTray environment:

On the VM: `~/i3_software/combo/build/env-shell.sh`

2. For a file in .i3 format

on the VM: `steamshovel GCD-File.i3[.zst] Data.i3[.zst]`

steamshovel documentation:

[http://software.icecube.wisc.edu/offline\\_trunk/projects/steamshovel/index.html](http://software.icecube.wisc.edu/offline_trunk/projects/steamshovel/index.html)

# Steamshovel Demo





# Useful commands In dataio-shovel

- “x”: open a module in XML format
- “enter”: open an object in a cleaned human readable format
- “g”: goto a frame number
- “i”: enter an python shell
- “L”: import a library
- “?”: show all available commands



# dataio-shovel Demo

Don't Suffer in silence, if you have any problems with Steamshovel or dataio-pyshovel do one of the following thing:

- File a detailed ticket: (use Component "IceCube Offline")  
<https://code.icecube.wisc.edu/projects/icecube/newticket>
- Ask on #Software on Slack
- Send an email to [software@icecube.wisc.edu](mailto:software@icecube.wisc.edu)