ARTview: Towards an Open Source Radar Visualization Tool

A Work of Love from:
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Abstract
• ARTview is an open source tool to visualize, analyze and modify radar data. It is based upon Py-ART and build with PyQt.
• Its modular structure makes it extremely flexible and allows for different configuration and is easy to expand.
• As the visualization part is already robust, focus right now is in expanding the editing capacities and simplifying the use.
• Go through the pages to learn more about ARTview's current functionalities.
• The source code can be found at: http://inguy.github.io/artview

Radar Display
• Display Py-ART Radar object.

Map to Grid
• Use Py-ART interpolation tool to generate a Grid object from Radar data.
• Change the Interpolation parameters and see the results in real time.

Grid Display
• Display Py-ART Grid object.

Open File
• There are two components use to open files:
  • One to easily navigate within a directory and save alterations.
  • And one to browser between directories

Modular Structure

Components
  • Display 1
  • Display 2
  • Colorbar

Shared Variables
  • cmrip
  • field

Layout Window
• The several components are organized as tabs in a layout window with a dynamic Panes. Panes can be divided and closed.
• Tabs can be dragged between panes or popped out to new windows.

Grid
• ARTview allow several ways to correct and filter radar data.
  • This include Py-ART algorithms and well as manual forms of data selection.

Correlation
• Easily makes a correction plot of two fields to analyse the correlation.

Scripting
• ARTview can be call as a program or run from python. This allow customizing its design. Here is an example of such:

Plug-in

Data selection
• Use the mouse to select data to extract, analyze, filter and unfold

Other tools
• Add topography background. This is mainly a proof of concept. Implementation should be application specific.
• Colormap edit, including logarithm and discrete colormap
• Direct real time access to the underlying data. Modify it in python and see the result in ARTview

What is Next?
We develop for the Community, so we rather that you tell us:
• Auto-load multiple files?
• Python Console?
• Animation?
• Tutorials?
• More Ideas?

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