Subject: JHU/APL/S1R library update
Posted by sterner on Mon, 14 Nov 1994 15:18:00 GMT
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JHU/APL/S1R IDL anonymous ftp site update notice
  The latest update was made on 1994 Nov 14.
  The last update was made on 1994 July 1.

fermi.jhuapl.edu IDL library ftp site description

Purpose of this ftp site

This ftp site contains several JHU/APL/S1R IDL libraries.

The library routines fall into the following broad categories:
Text Files, Text strings, Date & time routines, Information,
Plotting/Graphics, Imaging, Array processing, Math, Programming,
Widget tools, Library maintenance and documentation, and Miscellanious.
One demonstration library is currently included for the eqv routine.

Accessing the ftp site (Make sure you use ftp, not telnet)
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ftp fermi.jhuapl.edu (128.244.147.18)
  For Name type: anonymous
  For Password enter: your email address (ex: sterner@tesla.jhuapl.edu).
  Change directory by entering: cd pub/idl
  Set the correct transfer type: ascii (for README, cat.one, doc_guide.txt)
    or binary (for the *.Z files).
  To get a file enter: get filename
  When finished enter: bye.

  Get the ascii file README (~7.0k byte) for a guide to this ftp site.
  You may also want to get the one line description file cat.one (~31kb).

What's New

New date/time string formatting codes: In the routine DT_TM_MAK, which
  may be used to convert a Julian day number and seconds into a
  date/time string (like Mon Nov 14 07:23:20 1994), two new formatting
  codes are available. I$, was available but not mentioned in the
  help text, displays the total time interval in day with 2 decimal places.
  H$ is new and displays the total time interval in integer hours. It is
  intended to be used with m$ and s$ as in H$:m$:s$ and will not wrap
  around to 0 at multiples of 24 hours. This allows a time axis to
  be labeled from 0:00 to 24:00 if desired. All the formatting codes
  in dt_tm_mak may be listed by the IDL command: help,dt_tm_mak(/help).
  DT_TM_MAK is used to format the date/time labels used by the routine
  TIMEAXIS, which is used by JSPLOT (time series plots).

Color bar upgrade: The labeled axis on the color bar drawn by the routine
  CBAR may now be positioned on any side using the new keywords
  /LEFT,/RIGHT,/TOP,/BOTTOM.
New routine to draw a curve: The new routine XCURVE may be used to draw
  a curve in the display window in one of the three standard coordinate
  systems: data, device, normalized.
Legend routine upgrades: Dick Jackson (djackson@ibd.nrc.ca) added the
  FONT keyword and passed the thickness values on to the plot calls so
  symbols have the correct thickness.
Easy access to top color index: New routine, TOPC, returns the top color
  index. Useful for statements like tv,bytscl(z,top=topc()).
String editing routine upgrade: Trevor Harris (harris@hfrd.dsto.gov.au)
  upgraded STRESS, one of the earliest routines in the library, to allow
  target and replacement substrings to be arrays. This is done using
  recursion.
Obsolete routines dropped: the following routines were dropped from the
  library since they have become obsolete: CRS, DATACRS, DEVCRS, NORMCRS,
  AVE2D, SUM2D, CEIL, FLOOR. I would guess that if you have IDL v3.0
  or later you will not need these. Old code will have to be modified.
  Consider keeping a copy of the old JHU/APL/S1R library around until
  your routines are all updated.
New box color added: Sometimes an interactive box is hard (or impossible)
  to see because it's color does not contrast with the underlying image.
  This should now be less of a problem is color=-2 is used. This color
  number plots the box outline using alternating dashes of 0 and the last
  color index, usually contrasting colors.
New routine to scramble integers: A new routine, SCRAMBLE, returns an array
  of N scrambled integers from 0 to N-1.
Inverse bilinear interpolation: The new routine, IBILIN, does inverse
  bilinear interpolation. Here is theproblem: Assume a rectangular
  image with known 2-d coordinates at the corners. Bilinear interpolation
  may be used to find the 2-d coordinates at any point in the image
  (from the pixel coordinates). However, knowing the 2-d coordinates
  of a point, finding the corresponding pixel coordinates is not so
  straightforward. This routine solves that problem with a consistent,
  linear mapping.
Finding the intersction of two great circles: A new routine, SPHGC, finds
  the intersection coordinates of two great circles on a sphere. This is
  the same as finding the poles of some coordinates system given
  segments along two meridians.
Adding brightness shading to an image: The new routine SHADE_IMG may be
  used to shade a given image based on a given shading array. The shading
  array is same size as image and ranges from 0 (black) to 1 (brightest).
  The given image has its brightness modified by the shading array.
  The resulting color image is returned along with the corresponding
  color tables.
Exploring an unkown data file: The new routine XDATAFILE may be used to
  explore a data file of unkown format. Displays a selected section of

data as ascii text, bytes, integers, long integers, floats, and doubles
all at the same time. Allows byte swapping.
Pick one of the color table colors: The new routine PICKCOLOR allows the
selection of a color from the current color table.
Displaying text as an image: A new routine XTEXTIMG allows text from a
text file to be displayed in an image window. This is a widget based
interactive routine that allows text size, position, font, thickness,
foreground and background color, and so on to be adjusted using widgets.
This routine was designed to make viewgraph captions and works quite
well for that purpose. It saves the resulting images in TIFF format
(use XVIEW to convert to something else).
Converting between Julian Days and Julian Seconds: two new routines,
JD2JS and JS2JD do conversion between these two time systems. Many
of the new JHU/APL/S1R routines that deal with time are based on
Julian Seconds (do help,dt_tm_tojs(/help)).
TV-like adjustments to a displayed image: A currently displayed image
may be enhanced using the new routine XHSBC to adjust overall image hue,
saturation, brightness, and contrast. Uses draw widgets instead of slider
bars. This allows a 256 color image to be viewed during adjustment,
slider bars would not. Brightness and contrast together adjust value:
brightness is an offset in value, contrast is the deviation from
the mean value.
Drawing ellipses: A new routine, ELLIPSE, is a modification of ARCS
by David Steele, Department of Physics and Astronomy, The University
of Calgary. It makes it easy to draw ellipses in any of the coordinate
systems. May specify semi-major axes, orientation, colors, centers,
and line-styles. Inputs may be arrays making it very easy to draw
very interesting figures.
Preserving image shape: A new routine, IMGWINDOW, makes it easy to
display an image anywhere in the window and keep the true shape.
IMGWINDOW is used to find a normalized position value given three
of the four position elements. The resulting position may be used
with IZOOM to display an image with labeled axes.
Zero padding on spectra: Zero padding was added to the two routines
RSPEC (ensemble averaged spectrum of real 1-d data) and CSPEC
(ensemble averaged spectrum of complex 1-d data). Zero padding
gives finer spacing on the frequency axis but not more actual
frequency resolution.
World coastline (low resolution): The world coastline data has been moved
from worldxdr.save2 to worldxdr.res. The old format was a save2 file,
non-self-documenting. The new is a res file which is self-documenting.
To access: resopen,'worldxdr.res',/xdr
          rescom
          resget,'lat',lat
          resget,'long',lng
          resget,'pen',pen
          resclose
          plot,[-180,180],[-90,90],/nodata

---

plotp, lng, lat, pen

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Subject: Re: JHU/APL/S1R library update
Posted by matsu on Fri, 09 Dec 1994 06:35:54 GMT
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In article <sterner.784826280@strdev.jhuapl.edu> sterner@strdev.jhuapl.edu (Ray Sterner)
writes:
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Is there any restriction on IDL version ?
I use IDL version 3.0.0. The execution of the demonstration routine,
`eqv_demo', is halted by occuring an error. The error is such that,

IDL> eqv_demo
% Compiled module: EQV_DEMO.
% Compiled module: GETFILE.
 Error in getfile: File eqv_list.txt not opened.
% Compiled module: EQV.
% Compiled module: FILEBREAK.
% Compiled module: REVERSE.
% ROTATE: Expression must be an array in this context: A.
% Execution halted at REVERSE </usr/users/idl/lib/userlib/reverse.pro(83)>
  (ROTATE).
%   Called from FILEBREAK </home8-2/matsu/idl/fermi/idlusr/filebreak.pro(
  145)>.
%   Called from EQVLIST </home8-2/matsu/idl/fermi/idlusr/eqv.pro(463)>.
%   Called from EQV </home8-2/matsu/idl/fermi/idlusr/eqv.pro(1043)>.
%   Called from EQV_DEMO </home8-2/matsu/idl/fermi/eqv_demo/eqv_demo.pro(
  8)>.
%   Called from $MAIN$.

What is the probrem ?
Any advice would be appreciated.

Thank you.

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