Subject: Re: Ternary Plot in IDL?
Posted by David Fanning on Tue, 09 Apr 2013 11:41:17 GMT
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JP writes:

> Googled that in the group and it doesn't seem to be anything done for that yet althought ppl have asked about it every now and then.
>
> I am after a ternary plot http://en.wikipedia.org/wiki/Ternary_plot
> Was told that R has a function for it: http://rss.acs.unt.edu/Rdoc/library/vcd/html/ternaryplot.html
>
> Wouldn't it be great if there was something like it in IDL?
>
> maybe a cgTernaryPlot procedure? ;) ;)

Yeah, that would be great. :-)

Fernando Santoro has a Ternary Diagram program, written in function graphics, in the IDL code library on the ExelisVis web page. He also wrote the Taylor Diagram code that I cribbed for cgTaylorDiagram. It took me most of a morning to do it. I won't take you too much longer, I don't think, to do the same thing for the Ternary Diagram. :-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Ternary Plot in IDL?
Posted by David Fanning on Tue, 09 Apr 2013 11:56:15 GMT
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David Fanning writes:

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> took me most of a morning to do it. I won't take you too much longer, I

> don't think, to do the same thing for the Ternary Diagram. :-)

Just looking at that code, not only is it going to take you just a couple of hours to convert to Coyote Graphics, but it is also going to be easy to make improvements! For example, I would start by centering the diagram in the window, adding keywords to allow for different symbols of different sizes, etc. It is pretty bare bones in its current configuration.

Cheers,

David

--
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Subject: Re: Ternary Plot in IDL?
Posted by JP on Tue, 09 Apr 2013 13:27:20 GMT
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Oh, cool, will have a look.
I had been trying myself, after finding that it's really a simple reprojection of a 2d space.
Came up with the very rudimentary procedure below (before reading your reply). Doesnt have much functionality but it works).

JP

```
pro TernaryPlot, x, y, z, $
   _EXTRA=extra

   ; write warnings for x, y not being within 0-1 and adding to more than 1
   ; first check if z exists or not
   n_x = n_elements(x)
   n_y = n_elements(y)
   n_z = n_elements(z)

   if n_z eq 0 then begin
     print, 'z not present, assumed to be = 1-x-y'
     z=1-x-y
     n_z = n_elements(z)
   endif
```

```
    ; check if x, y, z, all same # of elements
    if (n_x ne n_y) or (n_x ne n_z) or (n_x ne n_z) then $
        Message, 'x, y, z must have same number of elements'

    ; check if all sum to one
    tot = x+y+z
    if total(tot gt 1) ge 1 then $
      print, 'warning: at least one element adds to >1 '
    if total(tot lt 1) ge 1 then $
      print, 'warning: at least one element adds to <1 '


    x_new = y + z/2
    y_new =  SQRT(3)/2*z
    vertices_x= [0.0, 0.5, 1, 0]
    vertices_y= [0.0, SQRT(3)/2, 0, 0]

    cgPlot, x_new, y_new, xRange=[0,1], yRange=[0, SQRT(3)/2], yStyle=1, _EXTRA=extra
    cgPlot, vertices_x, vertices_y, psym=-3, /overplot

end
```

On Tuesday, 9 April 2013 21:56:15 UTC+10, David Fanning wrote:
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>
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>
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