Subject: Re: Vector representation of data.
Posted by chris_torrence@NOSPAM on Fri, 29 Mar 2013 21:18:43 GMT
View Forum Message <> Reply to Message

On Wednesday, March 27, 2013 8:04:24 AM UTC-6, dave poreh wrote:
> Folks
>
> Hi,
>
> I have data like x,y, z and z shows my intensity data (x and y are like coordinates). My data has low value in one corner and i was thinking maybe I could show the data like vectors; length of vector should show ||z|| and direction toward the lowest point in my 2D data (x-y). Can someone give me an idea about how could I do that please?
>
> Cheers,
>
> Dave

Hi Dave,

You should be able to use the VECTOR function to create the actual vector plot. You just need to compute the "U" and "V" components of the vectors, along with the X and Y locations. Then it is just:

v = VECTOR(U, V, X, Y)

The trick will be computing your angles, perhaps by computing some sort of "gradient" along your data? If you could get ||Z|| and angle Theta on a 2D grid, then you could just use:
U = ||Z|| cos(Theta)
V = ||Z|| sin(Theta).

Hope this helps a bit.

Cheers,
Chris
ExelisVIS

Subject: Re: Vector representation of data.
Posted by Phillip Bitzer on Fri, 29 Mar 2013 23:38:01 GMT
View Forum Message <> Reply to Message

Building off Chris's advice...

Assuming (y0,x0) is the "low point", then something like

ang = ATAN(y-y0, x-x0)
partvelvec, z*COS(ang), z*SIN(ang), x, y

should do the trick. This uses partvelvec from the astro library,
http://idlastro.gsfc.nasa.gov/ftp/pro/plot/partvelvec.pro

You'll have to be careful with which way the vector points, if that's important.

Subject: Re: Vector representation of data.
Posted by d.poreh on Thu, 04 Apr 2013 07:27:27 GMT
View Forum Message <> Reply to Message

On Friday, March 29, 2013 3:38:01 PM UTC-8, Phillip Bitzer wrote:
> Building off Chris's advice...
>
>
>
> Assuming (y0,x0) is the "low point", then something like
>
>
>
> ang = ATAN(y-y0, x-x0)
>
> partvelvec, z*COS(ang), z*SIN(ang), x, y
>
>
>
> should do the trick. This uses partvelvec from the astro library,
http://idlastro.gsfc.nasa.gov/ftp/pro/plot/partvelvec.pro
>
>
>
> You'll have to be careful with which way the vector points, if that's important.

Thanks guys, I am using partvelvec now and looks like it is working:)
Cheers,
Dave
