Subject: Horizon plot - Problem using vis_horizon.pro function
Posted by atmospheric physics on Mon, 12 Jan 2015 13:58:09 GMT
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Dear All,

Greetings. I was trying to make horizon plot to represent wavelet multi-resolution analysis (MRA) of irradiance with each row denoting the different detail of the MRA. Following Michael Galloy's vis_horizon.pro function (http://michaelgalloy.com/2009/05/05/horizon-graph-code.html), I tried to make the visualization code for my data. I found that I could not get anything except a black figure window. Will it be possible for anyone to correct me if I am using vis_horizon function wrongly?

My ASCII input file contains the following columns:

```
[ UTC_time, raw_data(1s), wd_5s, wd_10s, wd_20s, wd_40s, wd_1m20s, $
   wd_2m40s, wd_5m20s, wd_10m40s, wd_21m20s, wd_42m40s, $
   wd_1h25m20s, wd_2h50m40s ]
```

The first column represent the UTC time (in hours), the second column represents the raw irradiance data. From third column onwards, the each column represent the wavelet detail for different smoothing scales. My intention was to represent the wavelet details in the form of horizon plot similar to the figure shown in page 6 (http://oa.upm.es/4953/1/Perpinan.Lorenzo2010.pdf).

I have written the following lines in the IDL code:

```
---------------------------------------------------
PRO HORIZONPLOT

infile = 'pyr43_rsds_wdj_20130413.txt'
nrows = FILE_LINES(infile)

allData = FLTARR(14,nrows)
OPENR, lun0, wdjfile, /GET_LUN
READF, lun0, allData
CLOSE, lun0 & FREE_LUN, lun0

utcTime = REFORM(allData[0,*])  ; UTC Time (hours)
ws0 = REFORM(allData[1,*])      ; Raw irradiance (@1 sec)
wdj = allData[2:13,*]   ; Wavelet Details

ytitles =  ['5s','10s','20s','40s','1m20s','2m40s','5m20s','10m40s','21 m20s', $
     '42m40s','1h25m20s','2h50m40s']

minval = MIN(wdj,MAX=maxval)

!P.Multi=0

vis_horizon,utcTime, wdj, nbands=12,titles=ytitles, $
```

xstyle=9, ystyle=8, min=minval, max=maxval, colors=bytarr(12)

END

Look forward for your suggestions.

Thanking you in advance,
Madhavan

Subject: Re: Horizon plot - Problem using vis_horizon.pro function
Posted by Michael Galloy on Mon, 12 Jan 2015 20:27:11 GMT
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On 1/12/15, 6:58 AM, Madhavan Bomidi wrote:
> Dear All,
>
> Greetings. I was trying to make horizon plot to represent wavelet multi-resolution analysis (MRA) of irradiance with each row denoting the different detail of the MRA. Following Michael Galloy's vis_horizon.pro function (http://michaelgalloy.com/2009/05/05/horizon-graph-code.html), I tried to make the visualization code for my data. I found that I could not get anything except a black figure window. Will it be possible for anyone to correct me if I am using vis_horizon function wrongly?
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> wd_2m40s, wd_5m20s, wd_10m40s, wd_21m20s, wd_42m40s, $
> wd_1h25m20s, wd_2h50m40s]
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>
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> nrows = FILE_LINES(infile)
>
> allData = FLTARR(14,nrows)
> OPENR, lun0, wdjfile, /GET_LUN
> READF, lun0, allData
> CLOSE, lun0 & FREE_LUN, lun0

```
>
>  utcTime = REFORM(allData[0,*])  ; UTC Time (hours)
>  ws0 = REFORM(allData[1,*])      ; Raw irradiance (@1 sec)
>  wdj = allData[2:13,*]   ; Wavelet Details
>
>  ytitles =  ['5s','10s','20s','40s','1m20s','2m40s','5m20s','10m40s','21 m20s', $
>        '42m40s','1h25m20s','2h50m40s']
>
>  minval = MIN(wdj,MAX=maxval)
>
>  !P.Multi=0
>
>  vis_horizon,utcTime, wdj, nbands=12,titles=ytitles, $
>        xstyle=9, ystyle=8, min=minval, max=maxval, colors=bytarr(12)
>
>  END
>  ------------------------------------------------
>
>  Look forward for your suggestions.
>
>  Thanking you in advance,
>  Madhavan
>
```

I've update MG_HORIZON to handle NaN values like you have in your data.
Get updates from the GitHub repo:

  http://github.com/mgalloy/mglib

Mike
--
Michael Galloy
www.michaelgalloy.com
Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)
Research Mathematician
Tech-X Corporation

Subject: Re: Horizon plot - Problem using vis_horizon.pro function
Posted by atmospheric physics on Wed, 14 Jan 2015 10:42:46 GMT
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Hello Mike,

Thanks and it works fine.

Regards,
Madhavan

On Monday, January 12, 2015 at 9:27:13 PM UTC+1, Mike Galloy wrote:
> On 1/12/15, 6:58 AM, Madhavan Bomidi wrote:
>> Dear All,
>>
>> Greetings. I was trying to make horizon plot to represent wavelet multi-resolution analysis (MRA) of irradiance with each row denoting the different detail of the MRA. Following Michael Galloy's vis_horizon.pro function (http://michaelgalloy.com/2009/05/05/horizon-graph-code.html), I tried to make the visualization code for my data. I found that I could not get anything except a black figure window. Will it be possible for anyone to correct me if I am using vis_horizon function wrongly?
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>> wd_1h25m20s, wd_2h50m40s]
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>>
>> ytitles = ['5s','10s','20s','40s','1m20s','2m40s','5m20s','10m40s','21 m20s', $
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>>
>> minval = MIN(wdj,MAX=maxval)
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>> !P.Multi=0
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>> vis_horizon,utcTime, wdj, nbands=12,titles=ytitles, $

>>   xstyle=9, ystyle=8, min=minval, max=maxval, colors=bytarr(12)
>>
>> END
>> --
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>> Look forward for your suggestions.
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>> Thanking you in advance,
>> Madhavan
>>
>
> I've update MG_HORIZON to handle NaN values like you have in your data.
> Get updates from the GitHub repo:
>
>   http://github.com/mgalloy/mglib
>
> Mike
> --
> Michael Galloy
> www.michaelgalloy.com
> Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)
> Research Mathematician
> Tech-X Corporation
