
Subject: Re: Dynamic Spectrum

Posted by [R.G. Stockwell](#) on Mon, 02 Jun 2008 16:16:36 GMT

[View Forum Message](#) <> [Reply to Message](#)

<duxiyu@gmail.com> wrote in message

news:b89c97e8-2b45-4507-a70b-0f71cdb91a8e@p25g2000pri.google groups.com...

> Dear all,

>

> I have a set of data and their measued time.

> I want to get the similary Dynamic Spectrum which is shown in

> <http://urap.gsfc.nasa.gov/www/reiner/spectra.html>.

> Is there any IDL procedure to get the Dynamic Spectrum?

>

> Best regards,

> Du Jian

Hi Du Jian,

here is a link to a page that has IDL code to do a similar thing.

<http://www.cora.nwra.com/stransform/>

The file you would need is s_trans.pro, here is the direct link:

http://www.cora.nwra.com/~stockwel/rgspages/S-Transform/s_tr ans.pro

Here is a simple example:

```
ex_len = 512
ex_time = findgen(ex_len)
ex_freq = 5;ex_len/16
ex_ts = cos(2*!Pi*ex_freq*ex_time/ex_len)
ex_ts = cos(2*!Pi*(ex_len/5+2*ex_ts)*ex_time/ex_len)
; crossed chirp example commented out
;ex_ts = cos(2*!Pi*ex_freq*ex_time*(1+2*ex_time/ex_len)/ex_len)
;ex_ts = ex_ts + reverse(ex_ts)
!P.multi=[0,1,2]
plot,ex_ts,xtitle='Time (units)',title='Time Series [h(t) = cos(cos(wt))]'
s = s_trans(ex_ts,/samp, /AMPLITUDE,verbose=verbose) ; returns structure,
amps only returned
nlevels = 14
levels = findgen(nlevels)/(nlevels-1)*1.5

contour,s.st,ex_time,s.freq,levels=levels,/fill,xtitle='Time (units)', $
ytitle='Frequency (1/unit)',title='Amplitude of S-Transform'
```

end

Cheers,
bob
