
Subject: Re: how to use wavelet transformation function in IDL?

Posted by [Chris W](#) on Mon, 12 Jan 2009 17:17:15 GMT

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

On Jan 12, 10:49 am, Hu <jha...@gmail.com> wrote:

> Hi, there
> I got a time-series data array (suppose array X), Now I want to use
> wavelet functions in IDL library to filter the array, so that I can
> remove the abnormal data elements and make the time-series data more
> reasonable.
>
> Which functions should I use?
>
> In fact, I check some methods like WV_FN_COIFLET, or WV_DENOISE, but
> it dose not work, and the online help has no examples about this
> parts. So, I will be appreciate if you can give me an example. Many
> thanks.

Here are the steps I have used with the discrete wavelet transform:
(see idl help on `wv_dwt`)

```
;;Get information about the chosen wavelet:  
;; could use any of the wv_fn_***** functions  
info = wv_fn_symlet(12,scaling,wvx, ioff, joff)
```

```
nl = 3 ;; depth of the transform  
;;Take the wavelet transform:  
xdwt = wv_dwt(image, scaling,wvx, ioff, joff , n_levels=nl)
```

```
;;operate on xdwt, e.g, to get rid of noise
```

```
.....  
newdwt = .....
```

```
;; inverse the transform with the inverse keyword  
idwt = wv_dwt(newdwt,scaling,wvx,ioff,joff, N_LEVELS=nl, INVERSE=1)
```

Subject: Re: how to use wavelet transformation function in IDL?

Posted by [jkj](#) on Tue, 13 Jan 2009 13:25:28 GMT

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

On Jan 12, 11:17 am, Chris W <cwood1...@gmail.com> wrote:

> On Jan 12, 10:49 am, Hu <jha...@gmail.com> wrote:
>
>> Hi, there
>> I got a time-series data array (suppose array X), Now I want to use
>> wavelet functions in IDL library to filter the array, so that I can
>> remove the abnormal data elements and make the time-series data more

```
>> reasonable.
>
>> Which functions should I use?
>
>> In fact, I check some methods like WV_FN_COIFLET, or WV_DENOISE, but
>> it dose not work, and the online help has no examples about this
>> parts. So, I will be appreciate if you can give me an example. Many
>> thanks.
>
> Here are the steps I have used with the discrete wavelet transform:
> (see idl help on wv_dwt)
>
> ;;Get information about the chosen wavelet:
> ;; could use any of the wv_fn_***** functions
> info = wv_fn_symlet(12,scaling,wvx, ioff, joff)
>
> nl = 3 ;; depth of the transform
> ;;Take the wavelet transform:
> xdwt = wv_dwt(image, scaling,wvx, ioff, joff , n_levels=nl)
>
> ;;operate on xdwt, e.g, to get rid of noise
> .....
> newdwt = .....
>
> ;; inverse the transform with the inverse keyword
> idwt = wv_dwt(newdwt,scaling,wvx,ioff,joff, N_LEVELS=nl, INVERSE=1)
```

We have been using this IDL wavelet toolkit:

<http://paos.colorado.edu/research/wavelets/>

-Kevin

Subject: Re: how to use wavelet transformation function in IDL?

Posted by [Hu](#) on Thu, 15 Jan 2009 22:01:44 GMT

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

Really thank you two guys, I will check the website.
