

---

Subject: Re: IDL hilbert() function

Posted by [Wout De Nolf](#) on Mon, 03 Nov 2008 09:16:31 GMT

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

---

On Sat, 1 Nov 2008 02:14:54 -0700 (PDT), [lecacheux.alain@wanadoo.fr](mailto:lecacheux.alain@wanadoo.fr) wrote:

> Is this function actually computing the Hilbert transform ?  
> The Hilbert transform is known to be idempotent, i.e.  $H(H(x)) = -x$ .  
> However, by applying the IDL function, one get for instance :  
> IDL> print, hilbert (hilbert (indgen(8)))  
> ( 6.00000, 0.000000)( 7.00000, 0.000000)  
> ( 4.00000, 0.000000)( 5.00000, 0.000000)  
> ( 2.00000, 0.000000)( 3.00000, 0.000000)  
> ( 0.000000, 0.000000)( 1.00000, 0.000000)

It works for this:

```
x=findgen(180)/90.*!pi  
plot,x,hilbert(hilbert(sin(x))),/xs  
oplot,x,-sin(x),psym=1
```

Not for this (flips):

```
plot,hilbert(hilbert((indgen(1000))))  
oplot,indgen(1000),psym=1
```

I'm not sure why, but check the hilbert.pro in the IDL-lib directory to see how it's implemented.

---