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
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.