Subject: dfourt
Posted by beppe89 on Tue, 21 Apr 2015 23:35:35 GMT
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Hi everyone,

I am a beginner in the use of IDL and and I need some help. I need to write a program that calculates the inverse of the discrete fourier transform calculated by the dfourt.pro.
I know that dft.pro calculates the inverse, but I really need the one from dfourt.pro.

Thanks,
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beppe89
http://compgroups.net/comp.lang.idl-pvwave/

Subject: Re: dfourt
Posted by Matthew Argall on Fri, 24 Apr 2015 18:44:28 GMT
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Looking at the code
http://www.arm.ac.uk/~csj/idl/CLEAN/dfourt.pro

It seems pretty easy to do. They appear to be building the Fourier transform as described in any undergraduate mathematical methods text (e.g. Boas). Essentially, the inverse transform would be

```
ifft = complex(0, 0)
for i = 0, npts - 1
  ifft = ifft + complex( A[i] * cos(f[i]*t), B[i] * sin(f[i]*t)
endfor
```

Where A and B are the real and complex fourier coefficients, t is time, and f is frequency.