Subject: Re: Doing a DFT in IDL
Posted by Russell[1] on Mon, 02 Apr 2012 14:19:45 GMT
View Forum Message <> Reply to Message

On Apr 2, 8:31 am, Helder <hel...@marchetto.de> wrote:
> Dear all,
> I've been looking for this around, but couldn't yet find anything.
> I would like to made a (discrete) Fourier transform by directly typing in the code. The target is not performance, but eventually modifying the source (integrated) function from [f(x)exp(-j2piux/N)] to something different.
> Has anybody written such a code in IDL that can be modified? Or can anybody give me a working link to such a code?
>
> Many thanks and sorry for wasting your time.
> Cheers, Helder

What do you need to do that fft.pro or convol.pro won't do --- or even convolve.pro (with the Astronomy Library)?

-Russell

Subject: Re: Doing a DFT in IDL
Posted by Kenneth P. Bowman on Mon, 02 Apr 2012 21:24:15 GMT
View Forum Message <> Reply to Message

In article < 22647522.376.1333369882343.JavaMail.geo-discussion-forums@yn gr3 >,
Helder <helder@marchetto.de> wrote:

> Dear all,
> I've been looking for this around, but couldn't yet find anything.
> I would like to made a (discrete) Fourier transform by directly typing in the
> code. The target is not performance, but eventually modifying the source
> (integrated) function from [f(x)exp(-j2piux/N)] to something different.
> Has anybody written such a code in IDL that can be modified? Or can anybody
> give me a working link to such a code?
>
> Many thanks and sorry for wasting your time.
> Cheers, Helder

A DFT is just a set of dot products. (And an FFT is an efficient way to carry out the DFT calculations.)

Compute the basis functions that you want at the tabulated points, then multiply by the function you are transforming and sum.
You can write it as a matrix-vector multiplication.

Ken Bowman

Subject: Re: Doing a DFT in IDL
Posted by Helder Marchetto on Tue, 03 Apr 2012 09:21:55 GMT
View Forum Message <> Reply to Message

On Monday, April 2, 2012 4:19:45 PM UTC+2, Russell wrote:
> On Apr 2, 8:31 am, Helder <hel...@marchetto.de> wrote:
>> Dear all,
>> I've been looking for this around, but couldn't yet find anything.
>> I would like to made a (discrete) Fourier transform by directly typing in the code. The target is not performance, but eventually modifying the source (integrated) function from [f(x)exp(-j2piux/N)] to something different.
>> Has anybody written such a code in IDL that can be modified? Or can anybody give me a working link to such a code?
>>
>> Many thanks and sorry for wasting your time.
>> Cheers, Helder
>
> What do you need to do that fft.pro or convol.pro won't do --- or even
> convolve.pro (with the Astronomy Library)?
>
> -Russell

Hi Russel,
I couldn't find any "fft.pro", but I think that I will go with writing my own procedure if none other is available. I was just surprised that such a demo or tutorial code is not on the web.
Cheers, Helder

---

Subject: Re: Doing a DFT in IDL
Posted by Helder Marchetto on Tue, 03 Apr 2012 09:23:28 GMT
View Forum Message <> Reply to Message

On Monday, April 2, 2012 11:24:15 PM UTC+2, Kenneth P. Bowman wrote:
>> Dear all,
>> I've been looking for this around, but couldn't yet find anything.
>> I would like to made a (discrete) Fourier transform by directly typing in the
>> code. The target is not performance, but eventually modifying the source
>> (integrated) function from [f(x)exp(-j2piux/N)] to something different.
>> Has anybody written such a code in IDL that can be modified? Or can anybody
>> give me a working link to such a code?
>>
>> Many thanks and sorry for wasting your time.
>> Cheers, Helder
>
> A DFT is just a set of dot products. (And an FFT is an efficient way to
> carry out the DFT calculations.)
>
> Compute the basis functions that you want at the tabulated points,

> then multiply by the function you are transforming and sum.
> You can write it as a matrix-vector multiplication.
>
> Ken Bowman

Dear Ken,
thanks for your reply. I think I will have to write it, but to avoid beginners errors, I wanted to modify an available code. That's all.
Cheers, Helder

---