
Subject: Re: question relating to FFT
Posted by [pgrigis](#) on Mon, 02 Mar 2009 19:37:22 GMT
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Hu wrote:

> Hi, there
> I try to use FFT function to smooth a curve (an array), and the code
> is like this:
>
>
> FUNCTION FOURIER,ARRAY ;*****FAST FOURIER FLITER
> FILTER=1.0/(1.0+DIST(152)/4.0)^2
> newARRAY=FFT(FFT(ARRAY,-1)*FILTER,1)
> RETURN,newARRAY
> END
>
> when I got an array X (has 152 elements) and use this function like :
>
> Y = FOURIER(X)
>
> I got an result Y with 152 elements, but all the elements are complex
> number, but How can I got an array filled with regular number, not
> complex number?

To get real number,
you can take the REAL_PART or the ABS of your array.
But you are using a very strange filter indeed...

Ciao,
Paolo

>
> I mean, I want to use the result to calculate regression relationship
> with other array.

Subject: Re: question relating to FFT
Posted by [Hu](#) on Mon, 02 Mar 2009 22:03:47 GMT
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On Mar 2, 2:37 pm, Paolo <pgri...@gmail.com> wrote:

> Hu wrote:
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>> is like this:
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> Ciao,
> Paolo
>
>
>> I mean, I want to use the result to calculate regression relationship
>> with other array.
>
>
Thank you ,and Why do you say it's strange? I want to denoise the
whole curve( store as array) to make it more reasonable.

```

Subject: Re: question relating to FFT
 Posted by [pgrigis](#) on Mon, 02 Mar 2009 23:21:59 GMT
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Hu wrote:

```

> On Mar 2, 2:37 pm, Paolo <pgri...@gmail.com> wrote:
>> Hu wrote:
>>> Hi, there
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>>>   FILTER=1.0/(1.0+DIST(152)/4.0)^2
>>>   newARRAY=FFT(FFT(ARRAY,-1)*FILTER,1)
>>>   RETURN,newARRAY

```

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>>> END
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>>> I mean, I want to use the result to calculate regression relationship
>>> with other array.
>>
>>
> Thank you ,and Why do you say it's strange? I want to denoise the
> whole curve( store as array) to make it more reasonable.
```

Try plot,dist(152)
Does that look like what you want?

Ciao,
Paolo

Subject: Re: question relating to FFT
Posted by [David Fanning](#) on Mon, 02 Mar 2009 23:30:09 GMT
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Paolo writes:

```
> Try plot,dist(152)
> Does that look like what you want?
```

It could be. Using the DIST function is one of the ways
you could construct a low-pass or high-pass filter for
digital images:

http://www.dfanning.com/ip_tips/freqfiltering.html

Cheers,

David

--

David Fanning, Ph.D.

Coyote's Guide to IDL Programming (www.dfanning.com)

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: question relating to FFT

Posted by [pgrigis](#) on Tue, 03 Mar 2009 16:14:43 GMT

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David Fanning wrote:

> Paolo writes:

>

>> Try plot,dist(152)

>> Does that look like what you want?

>

> It could be. Using the DIST function is one of the ways

> you could construct a low-pass or high-pass filter for

> digital images:

>

> http://www.dfanning.com/ip_tips/freqfiltering.html

Yes, but the OP was speaking of a "curve" with 152 elements, that is a one dimensional array. But dist(152) is a 152x152 array, and I don't think mixing 1-dim and 2-dim arrays like that is the right way to go ;-)

It would be a bit easier to understand what is going on by just building the 1-dim filter explicitly...

Ciao,

Paolo

>

> Cheers,

>

> David

> --

> David Fanning, Ph.D.

> Coyote's Guide to IDL Programming (www.dfanning.com)

> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
