Subject: Plot difference
Posted by Giorgio on Mon, 27 Apr 2009 19:32:42 GMT
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Hi,
From 10 measurements of a CCD camera with a size of (1293 x 840) points I calculate the mean and the standard deviation. I get different plots if I plot just the 2D data or if I rebin to make a 1D vector.
Let's say that my 2D arrays for the mean is called average and the standard deviation is standard. Then the results are different if I do:

plot, average, standard, psym = 4

and

plot, rebin(average, N_Elements(average)), rebin(standard, n_elements (standard)), psym = 4

Any hint why is that?

Thanks,

Giorgio

Subject: Re: Plot difference
Posted by pgrigis on Thu, 30 Apr 2009 21:24:26 GMT
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On Apr 27, 3:32 pm, Giorgio <giorgiol...@gmail.com> wrote:
> Hi,
> From 10 measurements of a CCD camera with a size of (1293 x 840)
> points I calculate the mean and the standard deviation. I get
> different plots if I plot just the 2D data or if I rebin to make a 1D
> vector.
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> do:
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> and
>
> plot, rebin(average, N_Elements(average)), rebin(standard, n_elements
> (standard)), psym = 4
>

> Any hint why is that?

I don't understand what the problem is.

a=randomn(seed,100000L) & print,total(abs(a-rebin(a,n_elements(a))))
shows that a and rebin(a,n_elements(a)) are identical (as they should
be).

Ciao,
Paolo

>
> Thanks,
>
> Giorgio

Subject: Re: Plot difference
Posted by Jeremy Bailin on Thu, 30 Apr 2009 21:54:47 GMT
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On Apr 30, 5:24 pm, Paolo <pgri...@gmail.com> wrote:
> On Apr 27, 3:32 pm, Giorgio <giorgiol...@gmail.com> wrote:
>
>
>
>> Hi,
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> shows that a and rebin(a,n_elements(a)) are identical (as they should
> be).
>
> Ciao,
> Paolo
>
>
>
>> Thanks,
>
>> Giorgio
>
>

OP said it's a 2D array...

```
IDL> seed=43l
IDL> a = randomn(seed,100l,100l)
IDL> b = rebin(a,n_elements(a))
IDL> print, a[0:5]
   -0.908351    -0.440050    -0.200080    -0.260391     0.113894
-0.456169
IDL> print, b[0:5]
   -0.204416    -0.201433    -0.198449    -0.195465    -0.192481
-0.189497
```

-Jeremy.

Subject: Re: Plot difference
Posted by Kenneth P. Bowman on Fri, 01 May 2009 01:56:50 GMT
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In article
<14231450-66e4-4a9b-837f-b3335d8be661@y33g2000prg.googlegroups.com>,
Jeremy Bailin <astroconst@gmail.com> wrote:

>>
>>
>>
>>> Hi,

>>> points I calculate the mean and the standard deviation. I get
>>> different plots if I plot just the 2D data or if I rebin to make a 1D
>>> vector.
>>> Let's say that my 2D arrays for the mean is called average and the

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>> Paolo
>>
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>>> Thanks,
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>>> Giorgio
>>
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> IDL> print, a[0:5]
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> IDL> print, b[0:5]
> -0.204416 -0.201433 -0.198449 -0.195465 -0.192481
> -0.189497
>
> -Jeremy.

It doesn't matter whether the arrays are 2-D or 1-D as far
as PLOT is concerned.

If you really need to make the array 1-D, use REFORM, not REBIN.
(REBIN will work if you set the /SAMPLE keyword, but that really

isn't the right tool for the job.)

Ken Bowman

Subject: Re: Plot difference
Posted by Jeremy Bailin on Fri, 01 May 2009 03:31:20 GMT
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> (REBIN will work if you set the /SAMPLE keyword, but that really
> isn't the right tool for the job.)

Not quite:

```
IDL> a = findgen(2,3)
IDL> print, a
      0.00000      1.00000
      2.00000      3.00000
      4.00000      5.00000
IDL> print, reform(a,6)
      0.00000      1.00000      2.00000      3.00000      4.00000
5.00000
IDL> print, rebin(a,6)
      2.00000      2.33333      2.66667      3.00000      3.00000
3.00000
IDL> print, rebin(a,6,/sample)
      0.00000      0.00000      0.00000      1.00000      1.00000
1.00000
```

Rebin is treating "6" as "6,1"... so it's expanding the first
dimension from 2 to 6, while collapsing the second dimension from 3 to
1.

-Jeremy.
