
Subject: Re: RANDOMN function

Posted by [Russell Ryan](#) on Thu, 14 Nov 2013 15:12:55 GMT

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There are lies, damned lies, and statistics.

On Thursday, November 14, 2013 9:46:01 AM UTC-5, Mats Löfdahl wrote:

> Den torsdagen den 14:e november 2013 kl. 14:59:11 UTC+1 skrev fd_...@mail.com:

>

>> Hi

>

>>

>

>> I used the RANDOMN function to add Gaussian noise to my data like this:

>

>>

>

>> noise=RANDOMN(seed,N)

>

>>

>

>> When I print, the mean values of RANDOMN(seed,N) I didn't get zero but something around 0.0337187.

>

>>

>

>> I expect to get something very very close to zero since the RANDOMN function returns normally-distributed, floating-points with a mean of zero. Is my assumption wrong? It's correct that the median is not zero?

>

>

>

> You will get better statistics the larger the set:

>

>

>

> IDL> for e=1,9 do print,e,10d^e,mean(randomn(seed,10d^e))

>

> 1 10.000000 0.0489258

>

> 2 100.00000 0.0172675

>

> 3 1000.0000 -0.0336368

>

> 4 10000.000 -0.00799687

```
>  
> 5 100000.00 0.00208867  
>  
> 6 1000000.0 -0.00101986  
>  
> 7 10000000. -0.000105310  
>  
> 8 1.0000000e+08 0.000104068  
>  
> 9 1.0000000e+09 2.46072e-05
```
