Subject: Re: There is NO TRUTH! Re: Histogram Hot-shots Required
Posted by davidf on Tue, 20 Jul 1999 07:00:00 GMT
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Liam Gumley (Liam.Gumley@ssec.wisc.edu) writes:

> The following procedure from the Astronomy library seems to do a pretty
> good job of computing and plotting histograms:
> http://www.astro.washington.edu/deutsch-bin/getpro/library01 .html?PLOTHIST

I tried this in my application. Indeed, it does a
pretty good job, but it is not always accurate.
I found it about as accurate as ROUNDing the
bin number.

I think most people who have struggled with this
problem have realized that the PLOT command in
Histogram mode (PSYM=10) is about half a bin
from what you really want. In other words,
the histogram "bar" is not positioned over the
values that are in that particular bin, but is
offset by half a bin size.

Some people correct this by adding half a binsize
to the bins when they draw the plot:

```
PLOT, bins+binsize/2, Histogram(data)
```

That is close enough for government work, but
it doesn't cut it when you need complete accuracy.
I think you would only really discover that this
method *wasn't* accurate if you are drawing the
real value on the graph, as I was in this application.
This would be especially true if your histogram
was fairly smooth. Mine happened to be missing
certain values, which made the problem especially
apparent to me.

I'm really of the mind that the only way to solve
this problem is to hand-draw your own histogram bars
at the edges of the actual bin values.

Cheers,

David
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