Subject: Match Histogram Binsize with Data Type
Posted by David Fanning on Tue, 05 Mar 2013 16:57:02 GMT
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Folks,

I just spent an uncomfortable and depressing couple of hours either (1) thinking I was going crazy or (2) convinced the IDL Histogram command had a bug of such monumental proportions that any thinking person would ..., etc.

Boiled down, it amounted to me using a floating point binsize with integer data. A BIG no-no when using the Histogram command. (I was actually using HIST_2D, which provides no such warning in its documentation.)

I can't stress this enough. You get INCORRECT values if you mismatch the binsize and the data type. Let me say it again, you get INCORRECT answers!

I'm just guessing, but it wouldn't surprise me to learn that the Histogram command produces incorrect values 50% of the time, simply because people don't realize the consequences of their thoughtless use of the command. (Guess arrived at by personal experience.)

Wouldn't it be nice if there could be a warning about this somewhere? Like, say, in the Histogram command itself.

Here is what I mean:

```
d = Fix(Scale_Vector(RandomU(-3L, 1000), 0, 360))
h1 = Histogram(d, Min=0, Max=360, BINSIZE=22.5)
h2 = Histogram(Float(d), Min=0.0, Max=360.0, BINSIZE=22.5)
cgPlot, h1
cgPlot, h2, Color='red', /overplot
```

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")