
Subject: Re: histogram and binsize problems

Posted by [David Fanning](#) on Thu, 27 Feb 2003 17:11:59 GMT

[View Forum Message](#) <> [Reply to Message](#)

Chad Bender (cbender@mail.astro.sunysb.edu) writes:

> I'm encountering some confusion using the histogram function when
> specifying the min, max, and binsize keywords.

Oh, right. I'm glad I'm not the only one this drives
crazy.

I spend several chapters in a book talking about this oddity
in Histogram, but I have never gotten around to writing a
wrapper for the command. (Which seems really odd to me.)

In any case, here is the relevant code from the program in
the book:

```
; Calculate the histogram.
```

```
histdata = Histogram(image, Binsize=binsize, Max=Max(image), $  
  Min=Min(image))
```

```
; Have to fudge the bins and histdata variables to get the  
; histogram plot to make sense.
```

```
npts = N_Elements(histdata)  
halfbinsize = binsize / 2.0  
bins = Findgen(N_Elements(histdata)) * binsize + Min(image)  
binsToPlot = [bins[0], bins + halfbinsize, bins[npts-1] + binsize]  
histdataToPlot = [histdata[0], histdata, histdata[npts-1]]  
xrange = [Min(binsToPlot), Max(binsToPlot)]
```

```
; Plot the histogram of the display image. Axes first.
```

```
Plot, binsToPlot, histdataToPlot, $ ; Fudged histogram and bin data.
```

```
  Background=backcolor, $ ; Background color of the display.
```

```
  Charsize=thisCharsize, $ ; Character size.
```

```
  Color=axiscolor, $ ; The color of the axes.
```

```
  Max_Value=max_value, $ ; The maximum value of the plot.
```

```
  NoData=1, $ ; Draw the axes only. No data.
```

```
  Position=histoPos, $ ; Position of the plot.
```

```
  Title='Image Histogram', $ ; The title of the plot.
```

```
  XRange=xrange, $ ; The X data range.
```

```
  XStyle=1, $ ; Exact axis scaling.
```

```
  XTickformat='(I6)', $ ; Format of the X axis annotations.
```

```
  XTitle='Image Value', $ ; The title of the X axis.
```

```
YMinor=1, $           ; One minor tick mark on X axis.  
YRange=[0,max_value], $       ; The Y data range.  
YStyle=1, $           ; Exact axis scaling.  
YTickformat='(I6)', $        ; Format of the Y axis annotations.  
YTitle='Pixel Density', $     ; The title of the Y axis.  
_Extra=extra           ; Pass any extra PLOT keywords.
```

```
; Overplot the histogram data in the data color.
```

```
OPlot, binsToPlot, histdataToPlot, PSym=10, Color=dataColor
```

```
; Make histogram boxes by drawing lines in data color.
```

```
FOR j=1L,N_Elements(bins)-2 DO BEGIN  
  PlotS, [bins[j], bins[j]], [!Y.CRange[0], histdata[j] < max_value], $  
    Color=dataColor  
ENDFOR
```

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting, Inc.

Phone: 970-221-0438, E-mail: david@dfanning.com

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155