
Subject: Re: Pair Counts in an Annulus, for large data sets
Posted by [David Fanning](#) on Thu, 23 Nov 2006 15:58:25 GMT
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fatcat3131@gmail.com writes:

> i've been tinkering with things, and i simply don't understand the
> histogram principle (i even read the tutorial!). would you mind
> explaining in slightly more detail?
>
> it's really not clicking with me how setting the binsize to Delta-R
> would allow me to count the points which lie in the distances (R to
> Delta-R) from a point P, and do this for all N points. i am interested
> in just one Delta-R, and counting the point-point pairs for this
> Delta-R.

Humm. Let's see. You have a data set containing the distance from some point, R. Suppose your delta-R, or bin size, is 1. If you run a histogram on R, it will tell you how many Rs are in the bin 0 to 1, 1 to 2, etc. Moreover, the reverse indices of the histogram will tell you which points in R are in each bin.

Suppose, for example, you are interested in which points have a radius between 2 and 3 in your R vector. This would be the third bin of the histogram:

```
h = Histogram(R, BINSIZE=1, OMIN=0, REVERSE_INDICES=ri)
Print, 'Number of points with radius between 2-3: ', h[2]
```

Now, which points in R are in this bin? That information is contained in the reverse indices:

```
indices_of_R_in_Bin3 = ri[ri[2]:ri[3]-1]
```

Cheers,

David

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

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
