Subject: Re: performing multiple histograms without loops
Posted by JDS on Wed, 03 Feb 2010 21:47:48 GMT
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On Feb 2, 12:25 am, Jeremy Bailin <astroco...@gmail.com> wrote:
> I thought it would be worth expanding on the technique that I used in
> response
> to Ed's question, because it's a very useful one. The basic idea is
> this:
> suppose I want to use HISTOGRAM not on one a single set of N data
> points, but
> independently on multiple (say M) sets each of N data points. The
> simple solution
> is to use a for loop, but if M is large the IDL loop penalty soon
> becomes a problem. Is it possible to avoid a loop?
>
> The answer is yes, and the trick is to modify the data in each of the
> M data
> sets so that they don't overlap, and then use a single HISTOGRAM on
> all
> of them at once.

It's a good method... in fact, you've essentially rediscovered the algorithm employed by HIST_ND (which itself elaborated on IDL's own HIST_2D). The M sets of N data points constitute a second dimension (which don't really need to correspond to physical dimensions of any sort... they could just be "M different sets numbered 0..M-1"). If you follow through the dimensional analogy, you can also more easily extract the "sub-histogram" by dumping the raw output into an appropriately dimensioned array.

JD