
Subject: Re: How to represent the spatial distribution of a parameter

Posted by [Jeremy Bailin](#) on Thu, 11 Dec 2008 15:34:42 GMT

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On Dec 10, 8:05 am, "Jean H." <jghas...@DELTHIS.ucalgary.ANDTHIS.ca> wrote:

```
> Hi,
>
> I did something similar a while ago... here is part of it:
>
> newX = Xdata / CellSizeX ;Agregate the data
> newY = Ydata / CellSizeY
>
> nbCol = ceil((maxX+1.0) / cellSizeX)
> nbRow = ceil((maxY+1.0) / cellSizeY)
> nPoint = n_elements(newX)
>
> image = lonarr(nbCol, nbRow)
> nbPointsXY = lonarr(nbCol, nbRow)
>
> for i = 0L, nPoint-1 do begin
>   image[newX[i], newY[i]] += v[i]
>   nbPointsXY[newX[i], newY[i]] += 1
> endfor
>
> image /= nbPointsXY ;do the average
>
> tvscl, image
>
> Jean
```

If there are on average lots of points per grid cell, it would be more efficient to use the reverse indices in David's HIST_ND:

```
histimage = hist_nd(transpose([X],[Y]), [binX,binY], $
  min=[minX,minY], max=[maxX,maxY], reverse_indices=hiri)
meanimage = fltarr(size(histimage,/dimen))
for i=0L,n_elements(histimage)-1 do if histimage[i] gt 0 then $
  meanimage[i] = mean(V[hiri[hiri[i]:hiri[i+1]-1]])
```

If performance is still a serious issue, you should go read http://www.dfanning.com/code_tips/drizzling.html (it's effectively the same thing - you just need to divide by histimage at the end). In fact, go read it anyway - it's very illuminating. :-)=

-Jeremy.
