
Subject: Re: percentile with dimension keyword
Posted by [ben.bighair](#) on Tue, 19 Jul 2011 13:42:27 GMT
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On 7/18/11 9:31 PM, JP wrote:

- > Dear IDLers,
- >
- > The MEDIAN (i.e. 50th percentile) function has a dimension keyword.
- > I need to calculate other percentiles (e.g. 5th, 95th) in a large 3D array and don't want to loop.
- > Does anyone know of a function that could do that in a similar way to MEDIAN?

Hi,

Since the median operates in a rank like way, I wonder if you could simple sort the original and determine the quantiles you want by relative order. Perhaps like this?

```
x = randomn(s, 3,4,5) ; some array
ix = sort(x) ; it's ascending order indices
sx = x[ix] ; the original sorted
n = size(ix,/N_ELEMENTS) ; the number of items
p = [0.05, 0.5, 0.95] ; your quantiles (5th, 50th, and 95th)
ip = n * p ; quantiles as indices into ix
v = sx[ip] ; the quantiles as values
```

```
print, "sorted original ", sx
print, "the median ", median(x)
print, "the quantiles 5th 50th and 95th ", v
```

I might have fuzzy thinking on the correct way to handle the indices, but I think it is a good start. The next step is to wrap the above in a function that takes the array, the quantile you specify and the dimension to operate on as arguments.

Now that I think of it, have you searched for a function called percentile.pro? It might be worth looking for that as a starting point.

Cheers,
Ben
