Subject: Moment and XROI
Posted by roconnor on Mon, 20 Jun 2016 18:04:06 GMT
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Hi everyone,

I'm stumped on this one. My aim is to "cut out" a region of an image (fits) and analyze only the data in that region. That works great when I use XROI and the statistics keyword. However, I would also like to use MOMENT to further analyze the data contained within the ROI. When I use MOMENT, however, the mean returned is very different than the mean returned by Statistics. Does anyone know why this is/how I could get MOMENT to analyze the data within the ROI?

Relevant snippet of code is below.

```
XROI, data, regions_out = thisROI, statistics=S, /block

mask = thisROI ->computemask(dimensions=size(data, /dimensions), mask_rule=2)

roiImage = data*(mask GT 0)
M = moment(roiImage)
tv, roiImage

PRINT, 'Count Min Max Mean StdDev'
PRINT, S
print,  '*********************************************************** ****'
PRINT, 'Mean: ', M[0] & PRINT, 'Variance: ', M[1] & $
  PRINT, 'Skewness: ', M[2] & PRINT, 'Kurtosis: ', M[3]
```

Subject: Re: Moment and XROI
Posted by wlandsman on Mon, 20 Jun 2016 19:27:23 GMT
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On Monday, June 20, 2016 at 2:04:10 PM UTC-4, roco...@smith.edu wrote:
>
> roiImage = data*(mask GT 0)
> M = moment(roiImage)

It looks like you are setting the values outside the mask to zero, but they are still included (as zeros) in the moment calculation.   I think what you want is

```
goodpix = where(mask GT 0)
M = moment(roiImage[goodpix])
```

but I only took a quick look at the problem. --Wayne

Subject: Re: Moment and XROI
Posted by roconnor on Mon, 20 Jun 2016 19:47:56 GMT

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On Monday, June 20, 2016 at 3:27:27 PM UTC-4, wlandsman wrote:
> On Monday, June 20, 2016 at 2:04:10 PM UTC-4, roco...@smith.edu wrote:
>>
>> roiImage = data*(mask GT 0)
>> M = moment(roiImage)
>
> It looks like you are setting the values outside the mask to zero, but they are still included (as zeros) in the moment calculation.   I think what you want is
>
> goodpix = where(mask GT 0)
> M = moment(roiImage[goodpix])
>
> but I only took a quick look at the problem. --Wayne

That solved it! Thanks so much!