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Subject: Re: map\_set stereographic projection  
Posted by [mattie](#) on Fri, 28 Apr 2006 19:41:23 GMT  
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kuyper@wizard.net writes:

```
> mattie wrote:
>> kuyper@wizard.net writes:
>>
>>> dvila wrote:
> ...
>>> ; These are the u-v values corresponding to pixel centers along each
>>> edge.
>>> topv = (uv[1,1]+uv[1,2])*0.5
>>> botv = (uv[1,0]+uv[1,3])*0.5
>>> leftu = (uv[0,0]+uv[0,1])*0.5
>>> rightu = (uv[0,2]+uv[0,3])*0.5
>>
>>
>> Aren't these the u-v values corresponding to the _center_ of the
>> gridcell along each edge? (assuming the initial data gave the
>> centerpoints of the gridcell.)
>
> Yes, that's what my comment line says.
```

Ah, so it does. I read it as the center point of each edge.

```
>>> ; U-V coordinates of midpoints of outer edges
>>> u = [leftu-0.5*xscale, 0.5*(leftu+rightu), rightu+0.5*xscale, $
>>> 0.5*(leftu+rightu)]
>>> v = [0.5*(botv+topv), topv+0.5*yscale, 0.5*(botv+topv),
>>> botv-0.5*yscale]
>>> lonlat = MAP_PROJ_INVERSE(u, v, MAP_STRUCTURE=stereo)
>>> limit = [lonlat[1,*],lonlat[0,*]]
>>
>> Again, I'm not sure, but don't you have to add half a gridcell to each
>> direction to get the outer limit of each grid cell?
>
> Yes, that is precisely why I wrote such things as "leftu-0.5*xscale",
```

Yup again. When I looked at it, I kept thinking u was upper, rather than the uv direction, and it's completely obvious now. I was getting thrown by the  $u[1]$  factor as  $(\text{leftu} + \text{rightu}) * .5$ .

So I don't have any reason to say "But" when I said:

"But this was a very informative tutorial on how to register images  
when  
corner points are known."

Thanks for the lesson.

Matt

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