
Subject: Re: 3D images

Posted by [jnettle1](#) on Mon, 21 Jun 2004 19:00:02 GMT

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Timm,

This is really cool, but now i'm wondering how you figure out things like this :) Is there a book or some other resource (webpage?) that I can tap into that deals with creating shapes in images mathematically? I can figure some basic stuff out myself (I can do a square! woohoo!) but I'd like to learn more. Is this called morphometry?

Jeff

Timm Weitkamp <dont.try@this.address> wrote in message
news:<Pine.LNX.4.44.0406211459060.1292-100000@localhost.localdomain>...

> On 18.06.04 at 13:49 -0700, Aleks wrote:

>

>> Hello,

>> this board has been very helpful and I was wondering if anyone could

>> help me with the following.

>> I'm trying to construct a cylinder. I made a circle in photoshop and

>> made 10 copies of the file just renaming it. (example circle_01.tiff,

>>_02.tiff etc)

>>

>> [...]

>

> If those images do not contain anything more than a binary image of a

> cylinder, then the best is to forget Photoshop and do everything in IDL.

> Like this, for example:

>

>

> ;; (code starts here)

>

> nx = 1600

> ny = 1200

> nz = 80

> radius = 500.0

>

>

> ;; Define coordinates

>

> xVec = FINDGEN(nx) - (nx - 1) / 2.0

> yVec = FINDGEN(ny) - (ny - 1) / 2.0

> x = xVec # (1.0 + FLTARR(ny))

> y = yVec ## (1.0 + FLTARR(nx))

> r = SQRT(x^2 + y^2)

```
>
>
> ;; Calculate image of filled circle
>
> circle = r LT radius
>
>
> ;; Extend circle into third dimension
>
> cylinder = REBIN(circle, nx, ny, nz)
>
>
> ;; "Cap" cylinder with zero slice on top and bottom
>
> cylinder[*, *, 0] = 0
> cylinder[*, *, nz-1] = 0
>
>
> ;; Fire up Slicer3 to visualize interactively
>
> SLICER3, PTR_NEW(cylinder)
>
>
> ;; (code ends here)
>
> In "Slicer3" you can then simply have a 3D isosurface plot drawn by
> selecting "Mode: Surface", then "Low", and clicking on "Display". After
> that, there are lots of ways to change angles, color, etc.
>
> There are alternatives to SLICER3, among which are XVOLUME and Volume
> Objects. Just try and see which suits you best.
>
> Hope this helps
>
> Timm
```
