Subject: Re: Inner Hull

Posted by cgguido on Fri, 18 May 2012 16:36:13 GMT

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Can't you simplify your problem?

If you want the volume of a sphere that includes all points/excludes all points, can't you just take the point that is farthest/closest to the center, and use that as a radius?

This is the dum attempt I made to flip the circle inside out...

```
theta=randomu(s,100)*2*!pi
x=cos(theta)+randomu(s,100)*.2-.1
y=sin(theta)+randomu(s,100)*.2-.1
plot, x, y, /iso, ps=1, xr=[-1,1]*1.5, yr=[-1,1]*1.5, /xs, /ys
```

Triangulate, x, y, triangles, hull Plots, [x[hull],x[hull[0]]], [y[hull],y[hull[0]]],\$ color=cgcolor('green')

;This dumb idea ain't gonna work :-(
plot, 1./x,1./y,ps=1,title='Plotting the inverses'
Triangulate, 1./x, 1./y, triangles, hull
Plots, [1./x[hull],1./x[hull[0]]], [1./y[hull],1./y[hull[0]]],\$
color=cgcolor('red')

plot, x, y, /iso, ps=1, xr=[-1,1]*1.5, yr=[-1,1]*1.5, /xs,\$ /ys,title='These are the same guys in "regular" space.' Plots, [x[hull],x[hull[0]]], [y[hull],y[hull[0]]],\$ color=cgcolor('red')

-- Gianguido

On Friday, May 18, 2012 10:22:00 AM UTC-5, Ayla P wrote:

> Hi all,

>

>

>

- > I'm hoping someone might have some insight into this problem i'm
- > trying to solve. Hopefully I can make my questions coherent!
- > The intent is pretty simple: I have a bunch of points that make up a
- > sphere, and I want to calculate the volume of the sphere.
- > The points are random and aren't in a single line that makes an edge,
- > so I want to see how much the the volume of the sphere changes if I
- > make a hull using the outer-side of the "rim" (outermost pixels)
- > versus using the inner-side of the it (not all the interior pixels,

- > but those that basically make up the inner side of the rim). I've made
- > a convex hull around the outer pixels, but now I basically want to
- > make an inner hull.

>

- > Would it be possible to place the inner pixels on the outside and the
- > outer pixels on the inside then just retrace a convex hull and then re-
- > place the pixels into their original positions? If so, does anyone
- > have a suggestion of how to do this? If not, does anyone have an
- > alternative suggestion for how to get the inner hull?

>

> Thanks so much for the help!

> Ayla