Subject: Re: Compute area between curves
Posted by pgrigis on Wed, 15 Oct 2008 20:56:10 GMT
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Maybe you could determine the ellipse paramteres
(half-axis lengths, center position, rotation angle)
and work with that 5 parameters? Should be much simpler.

Ciao,
Paolo

frankosuna wrote:
> Ok, I will try to explain what is going on.
>
> I have a 3D wireframe model of Saturn and its rings. This wireframe
> (which is superimposed over an image) is shifted and rotated
> to match an image. The wireframe contains rings of Saturn and the
> image contains the edges to where those rings belong. Scientists
> tweak the wireframe so that it matches those edges, thus correcting
> spacecraft pointing vectors. This is called C-Smithing or Camera
> Smithing.
>
> http://frankosuna.googlepages.com/wireframe2.jpg
> This image is taken from the wireframe. I used region growing so that
> when the user clicks on a ring in the wireframe, it selects that ring
> (so that they can use
> that ring to match it to an edge) and create this image.
>
> http://frankosuna.googlepages.com/edgeDetect2.jpg
> This image is created by utilizing a saturn image that contains many
> features from saturn(like the edges of its rings). This in fact is an
> edge to a ring from Saturn.
> Region growing is used when the user selects a point in the image(this
> should be the corresponding ring from the wireframe). Based on that
> point where the user clicks, it region grows
> that section and creates this image.
>
> I have an algorithm that tries to match two images of the same scene
> but different perspectives meaning that one image might be scaled,
> rotated, or shifted differently than the other image.
>
> The values taken from this algorithm are used to correct the wireframe
> so that we can match it to the corresponding edge and therefor
> correcting the spacecraft pointing vectors.
>
> I need to come up with some measurement to see how close the edge

> detected ring from the image and the ring from the wireframe are. They
> are ellipses and they do cross since we're trying to get them as close
> as possible.
>
> I hope this clears things up.
>
> Thanks for taking time to respond with such detailed answers,
>
> Frank
