Subject: Re: Generate 3D Surface out of Points in Space
Posted by Karl Schultz on Wed, 23 Jun 2004 17:21:23 GMT

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"Tukee10" <turgutkaracay@hotmail.com> wrote in message
 news:b599c09a391226a337d5f4fe4e8672fd@localhost.talkaboutpro gramming.com...
> Hi everybody. I have 50 sliced images, that represent a splitting blood
> vessel. I went through the slices and extracted the contours of the blood
> vessel with the function CONTOURS. Now I have many points that lie on the
> surface of the vessel. I would like to reconstruct the 3d surface of the
> vessel out of these points. Is there any function or procedure that is
> able to do that?

Surface reconstruction is a hard problem. If you google around you will see
that quite a few people have spent much of their lives working on small
parts of the problem.

That being said, if your data has certain constraints, then the job can be
done.

In your case, are the images such that the blood vessels are a very distinct
color, or otherwise distinguishable from the rest of the image? If so, you
can stack the images into a volume and then run ISOSURFACE to generate a
surface. You would need to determine what isovalue to use that selects the
pixels representing the vessels the best. You might consider running some
image filtering tools to sharpen or clean up the images to make it as close
to "on-off" as possible with respect to the blood vessel pixels.

I think that this is your best shot, given what I know about your data.

Karl