Subject: Re: 3D triangulation of x,y,z vertices
Posted by Thomas Launey on Mon, 02 Oct 2006 13:44:56 GMT
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Thanks dick,
I still have a problem though because "tr" returns the tetrahedra of
the convex Hull but what I failed to make clear in my post is that I do
not want the convex hull, only the Delaunay triangulated vertices.
According to the Qhull doc, when /Delaunay is set, Qhull 'Performs a
Delaunay triangulation and returns the vertex indices of the resulting
polyhedra; otherwise, the convex hull of the data are returned. '
Its seems that even with the /Delaunay switch set, the tr polyhedra
still represent the convex hull.
Any clarification or and alternative to re-triangulate 3D vertices
would be most welcome :-)
Thanks,
Thomas

Dick Jackson wrote:
> Hi Thomas,
>
> I think the terminology used in the docs is a bit confusing. QHull's output
> "Connectivity list" *sounds* like something you'd want for Tetra_Surface's
> Connin "Tetrahedral connectivity array"... but it's not. What you want to
> use is QHull's output "Tr" which is a 4-by-nTetra array of indices for each
> tetrahedron.
>
> =====
>
> PRO QHullTetra
>
> oldverts = RandomU(seed, 3, 20)
> Qhull, oldverts, tetrahedra, /delaunay
> newconn=tetra_surface(oldverts, tetrahedra)
> oPts = Obj_New('IDLgrPolygon', oldverts, Style=0, Thick=3)
> oSurf = Obj_New('IDLgrPolygon', oldverts, Polygons=newconn, Color=[255,0,0])
> XObjView, [oPts, oSurf]
>
> END
>
> =====
>
> To see any points hiding inside, choose menu item View:Drag Quality:Low,
> then press and drag!
>
> In IDL, a "connectivity LIST" is a description of a general polygon mesh:
> [nPts0, <set of "nPts0" indices>, nPts1, <set of "nPts1" indices>, ...]
>

> But, as described in Tetra_Clip's doc (but not in all of the tetra-routines'
> docs, alas):
>
> =====
> A tetrahedral connectivity array consists of groups of four vertex index
> values. Each set of four index values specifies four vertices which define a
> single tetrahedron.
> =====
>
> Hope this helps!
>
> Cheers,
> -Dick
>
> --
> Dick Jackson Software Consulting   http://www.d-jackson.com
> Victoria, BC, Canada   +1-250-220-6117   dick@d-jackson.com
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