Subject: Point Cloud Isosurface
Posted by tegus on Thu, 12 Aug 2010 20:42:31 GMT
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Hello,
I'm working with noisy 3D point cloud data approximated by:

```
xyz_0=randomn(seed, 3, 1000) + 5.0
xyz_1=randomn(seed, 3, 1000) + 10.0
xyz_2=randomu(seed, 3, 10000) * 20.0
xyz=[[xyz_0], [xyz_1], [xyz_2]]
```

although the actual data sets are larger and far more complex ...

My current method of reducing and rendering the data:
- Create a 3D histogram (bin size = 1) using hist_nd from JDHU library:

```
vol=hist_nd(xyz, 1.0)
```

- Create isosurface (density threshold=10)

```
isosurface, vol, 10, verts, conn
```

- Create polygon object and display

```
oPoly=obj_new('IDLgrPolygon', verts, polygons=conn)
xobjview, oPoly
```

This gives me the desired result which in this example is a polygon object which depicts two blobs approximating the measured positions.

However, rendering and analysis of a more complex scene as a single, complex polygon becomes unwieldy (e.g., no dynamic culling, z clipping ...)
My question is, how do I separate these two solid objects, represented by a single polygon (verts and conn), into two seperate polygon objects (verts1, conn1 and verts2, conn2)?

Thanks,
Bill