Subject: Re: mesh volume and tetra volume Posted by Karl Schultz on Mon, 09 Aug 2004 16:28:56 GMT View Forum Message <> Reply to Message

"Robert Schaefer" <robertschaefer@gmx.de> wrote in message news:bffaee64.0408090124.5906ed23@posting.google.com...

- > Hello, I want to get the volume out of a 3d object.
- > First i tried with mesh_volume, but the returned values weren't
- > similar to my calculated. I checked with mesh issolid: return value:1,
- > so it ios solid and should return the volume.
- > When i check with tetra_volume the volume is similar to my calculated
- volume.

>

- > Now my question: what is the difference between mesh_volume and
- > tetra_volume?

MESH_VOLUME works by summing:

(a dot (b cross c)) / 6

for every triangle in the mesh where a, b, and c are the verts of each triangle in the mesh. This effectively calculates the signed volume of a tetrahedron formed by the origin and the 3 triangle verts for each triangle and then adds them up.

TETRA_VOLUME just adds up the volume of all the tets in the mesh using the same idea as above.

How big a difference are you seeing? Is there anything strange about your mesh, like being self-intersecting? How did you generate both the polygonal mesh and the tetrahedral mesh?

Karl