
Subject: Re: 3D point cloud visualization

Posted by [Jim Pendleton](#) on Wed, 29 Apr 2015 04:13:53 GMT

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On Tuesday, April 28, 2015 at 9:31:19 AM UTC-6, Nuno Ferreira wrote:

> Hi,

>

> I am trying to visualize a 3D point cloud that was captured with a Kinect camera. I have "v", a (3,N) array of the xyz coordinates of N vertices and "p", a (4,M) array of M polygons (all triangles). Each polygon contains the number of vertices (always 3) and indices to 3 vertices in array "v". For each vertex I also have the color, given as RGB components and alpha.

>

>

> I have two questions:

>

> 1 - I would like to use POLYSHADE with the SHADES keyword and the RGB information, but the manual says "When using the SHADES keyword on TrueColor devices, we recommend that decomposed color support be turned off by setting DECOMPOSED=0". However, using decomposed=0 limits the number of simultaneous colors to only 256... Isn't it possible to use the SHADES keyword with true color (RGB components)?

>

>

> 2 - I am also using PLOTS to draw all the vertices in 3D as dots, with a command such as:

>

> plots, v[0,*], v[1,*], v[2,*], color=quantized_colors_256, /T3D, psym=3

>

> How can I increase the size of the dots with PLOTS? Apparently keyword SYMSIZE does not serve this purpose...

>

> Any help would be greatly appreciated.

> Thanks,

>

> Nuno

Dick is right... This is a job for either "function graphics" or good old Object Graphics. Take a look at the POLYGON function as he suggests and possibly an overplot with a SCATTERPLOT3D to show the vertices, for example

```
IDL> symbol = orb(density = 1, radius = 1., color = [255, 0, 0])
```

```
IDL> x = randomu(seed, 100)
```

```
IDL> y = randomu(seed, 100)
```

```
IDL> z = randomu(seed, 100)
```

```
IDL> s = scatterplot3d(x, y, z, sym_object = symbol)
```

Jim P.
