
Subject: 3D registration

Posted by [Bita](#) on Tue, 01 May 2007 17:25:46 GMT

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Hi,

I would like to implement an affine transformation for 3D registration.

I have done a linear rigid transformation with T3D IDL-function, but how can I do the shear operations?

Thanks

Bita

Subject: Re: 3D registration

Posted by [Mike\[2\]](#) on Thu, 03 May 2007 15:34:36 GMT

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On May 1, 1:25 pm, Bita <rahm...@sbox.tugraz.at> wrote:

> Hi,

> I would like to implement an affine transformation for 3D registration.

> I have done a linear rigid transformation with T3D IDL-function, but how can I do the shear operations?

You can use t3d to incorporate translations, scaling, and rotations, i.e.

```
t3d, /reset
```

```
t3d, translate=[dx,dy,dz]
```

Then you can multiply by a shear transformation "by hand" (without t3d):

```
shear = [ [ 1, Sxy, Sxz, 0 ],  
          [ 0, 1,  Syz, 0 ],  
          [ 0, 0,  1,  0 ],  
          [ 0, 0,  0,  1 ] ]
```

```
!p.t = shear # !p.t
```

I think I may be remembering the correct form for a shear transformation, but don't take my word for it!

Mike
