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Subject: Re: Least squares fit of a model to a skeleton consisting out of 3D points.  
Posted by [Jeremy Bailin](#) on Thu, 27 Nov 2008 13:53:03 GMT

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On Nov 26, 3:40 am, Johan <jo...@jmarais.com> wrote:

> On Nov 24, 4:35 pm, Wox <s...@nomail.com> wrote:

>

>> On Mon, 24 Nov 2008 17:22:53 +0100, Wox <s...@nomail.com> wrote:

>>> X=[X,Y,Z] ; (you need to extract the seperate X, Y and Z in your user

>>> routine)

>>> Y=replicate(1,n\_elements(X))

>

>> Woops, redefined X :-). I mean Y=replicate(1,n3Dpoints).

>

> Thank you, it seems that krellipsoidfit.pro works rather well. I do

> have another question regarding this and will appreciate if can advise

> me.

>

> I need to get the 3 angles and axis lengths and use the following code

> to get it from the given eigenvalues (evals) and eigenvectors (evec):

>

> semia = sqrt(evals[0]) \* 2.0

> semib = sqrt(evals[1]) \* 2.0

> semic = sqrt(evals[2]) \* 2.0

>

> a = semia \* 2.0

> b = semib \* 2.0

> c = semic \* 2.0

> semiAxes = [semia, semib, semic]

> axes = [a, b, c]

>

> eigenvector = evec[:,0]

> eigenvector2 = evec[:,1]

> eigenvector3 = evec[:,2]

>

> orientation1 = atan(eigenvector1[1], eigenvector1[0])\*!RADEG

> orientation2 = atan(eigenvector2[1], eigenvector2[0])\*!RADEG

> orientation3 = atan(eigenvector3[1], eigenvector3[0])\*!RADEG

> angles = [orientation1, orientation2, orientation3]

>

> Is this correct or do I need made some adjustments, especially to the

> orientation?

>

> Thanks

> Johan Marais

That does indeed give you 3 angles, but it doesn't fully specify the orientation. Which angles are you looking for?

Incidentally, I'm not quite sure why you have that factor of 2 in the definition of semia etc., but I suppose it depends what went into the matrix you're diagonalizing...

-Jeremy.

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