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Subject: Re: surface fittin

Posted by [mchinand](#) on Fri, 04 Mar 2005 23:12:04 GMT

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In article <d09orm\$u9k\$1@news.iucc.ac.il>, Tal <ftal@post.tau.ac.il> wrote:

> hello,

>

> i worked with SFIT for that and used a 6th order polynomial which does a  
> good job (when looking at the output image it creates). however, when trying  
> to reconstruct that image that i see, by using the required x, y and the  
> coefficients, the resulting surface is far from being similar to what the  
> surface really is. i managed to fully and exactly reconstruct a 3x3  
> Gaussian. so i know that i read the KX coefficients correctly. i also  
> defined my x and y variables correctly (100% sure). but is doesn't work for  
> my 72x15 pixels surface. KX is a floating point output. it could be that  
> when saved as double precision, results will be better. but there is no  
> keyword for that.

It seems to work for the example in the online help:

```
=====
X = (FINDGEN(61)/10) # REPLICATE(1,61)
Y = TRANSPOSE(X)
; Evaluate a function at each point:
F = -SIN(2*X) + COS(Y/2)
; Compute a sixth-degree polynomial fit to the function data:
result = SFIT(F, 6, kx=k)
=====
```

Now to get the fit from coefficients, first multiply the x and y arrays by 10 since the fit was done with array indices and not the x and y values used to create F.

```
x=x*10.
```

```
y=y*10.
```

Create an array for the fit and then loop through the coefficients

```
fit=fltarr(61,61)
```

```
for i=0,6 do for j=0,6 do fit=fit+k(j,i)*x^i*y^j
```

Hope this helps,

--Mike

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