Subject: Re: 3D Curve Fitting
Posted by Craig Markwardt on Thu, 02 Oct 2008 16:05:51 GMT
View Forum Message <> Reply to Message

Wox <nomail@hotmail.com> writes:

> On 01 Oct 2008 13:07:37 -0400, Craig Markwardt
> <craigmnet@REMOVEcow.physics.wisc.edu> wrote:
>
>> Wox <nomail@hotmail.com> writes:
>>>
>>> Sorry for the confusing, it must be: "If you have 3 DEPENDENT
>>> variables, you can't use mpfit or curvefit or whatever"
>>
>> I don't think your claim is correct. If you have the independent
>> variable, X, and *two* measurements per X point, (say Y and Z) then it
>> is straightforward to fit both of those points simultaneously. That
>> is effectively fitting a 2D function. The method is the same,
>> MPFITFUN('MYFUNCT', X, [Y, Z], [ERR_Y, ERR_Z], ...)
>> and your function is responsible for computing both functions
>> separately and then stacking them together.
>
> Yes, you're right, but what if X would be measured too?

Well as I said, you need to define your problem first. MPFIT solves
the chi-square problem, so if you can rigorously define how the
chi-square value is calculated for your case, then MPFIT will solve
for the best parameters.

If all "X" "Y" and "Z" are measured values, then you no longer have a
simple chi-square problem. The closest technique to solve this kind
of problem is orthogonal distance regression (ODRPACK, in FORTRAN).
But even with ODR you need to be able to define in a formal way how
the function and chi-square are calculated.

Happy fitting,
Craig

--
---------- ----------
Craig B. Markwardt, Ph.D. EMAIL: cbmarkwardt+usenet@gmail.com
---------- ----------