

Re: Looking for Linear Stretch Constant for 1D Function

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- *From:* "jan hauben" <jan.hauben@xxxxxxxxxx>
 - *Date:* Sat, 16 Jul 2005 12:35:55 GMT
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>> $g(k*t) - k*g'(0)*t - g(0) = f(t) - f'(0)*t - f(0)$
>> because
>> $\int(0 \rightarrow t, f'(k*t)*dt) = (f(k*t) - f(0))/k$
>
> That looks right. The problem, I have just noticed, is that k is the
> unknown quantity. How can we get $g(k*t)$ if we do not know k? With a
> linear system
> $g(k*t) - k*g'(0)*t = g(0) + f(t) - f'(0)*t - f(0)$
> (with one equation for each t), there would be N equations and N+1
> unknowns.

you'll have to interpolate a function through $g(t)$ so you can predict the value $g(k*t)$ for a given t
you also need to do that to estimate $g'(0)$ and $f'(0)$
one equation is enough, but you can use all N to minimise the error due to the noise and the errors in the estimation

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- *Follow-Ups:*
 - ◆ **[Re: Looking for Linear Stretch Constant for 1D Function](#)**
◇ *From:* MajorSetback
 - *References:*
 - ◆ **[Re: Looking for Linear Stretch Constant for 1D Function](#)**
◇ *From:* MajorSetback
 - ◆ **[Re: Looking for Linear Stretch Constant for 1D Function](#)**
◇ *From:* jan hauben
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