Re: Looking for Linear Stretch Constant for 1D Function

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- *From*: "jan hauben" <jan.hauben@xxxxxxxxxx>

- *Date*: Thu, 14 Jul 2005 17:13:59 GMT

>> simplifying d(f(t))/dt = f'(t)
>> k^4 * g"(k*t) − f"(t) = 0
>
> Thanks. I'll remember that in future.
>
>> what are g(t) and f(t) ?
>
> They are vectors of real measurements with a lot of noise.

if there is a lot of noise differentiation is NOT the way to go
high frequency compounds have large derivatives
try rediucing the high frequency noice by interpolating a smooth function
through the measurements with a bandwith smaller then what you would expect
the system has
after that you can derive the g(t) and f(t) and solve the equation

or solve the integrated equation
k^2*g(k*t) + k^3*g'(0) + k^2*g"(0) = f(t) + f'(0) + f"(0)
but estimating the derivatives might not be easy too

> Consequently, k^4 * g"(k*t) − f"(t) = 0 is an ideal situation that is
> only an approximation in practice. k is constant with respect to t.
> However f(t) and g(t) will need to be measured across t in order to
> estimate k. It may be a type of vector correlation problem.

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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

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