Subject: Re: Savitzky-Golay filter
Posted by d.poreh on Thu, 12 Nov 2009 08:22:34 GMT
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On Nov 11, 11:12 pm, Dave_Poreh <d.po...@gmail.com> wrote:
> On Nov 11, 10:18 am, wlandsman <wlands...@gmail.com> wrote:
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>> On Nov 11, 5:12 am, Dav_Poreh <d.po...@gmail.com> wrote:
>
>>> Folks
>>> Hi;
>>> I am running Savitzky-Golay filter to take the derivations (first and
>>> second order). In comparison to derive function there is remarkable
>>> difference between Savitzky-Golay and routine derivation. I don't know
>>> which one is correct. Does this back to Taylor approximation or
>>> something else?
>>> Any help kindly appreciated
>>> Cheers
>
>> First of all, there is no single "correct" answer. You don't have a
>> continuous function to compute a derivative, but rather a sampled,
>> finite set of points. In the Savitzky-Golay filter one uses a local
>> polynomial approximation at each point, and then takes a derivative
>> of the polynomial. (So the derivative depends on the order of the
>> polynomial approximation, among other things.) You don't say what
>> your other method of computing the derivative is, but deriv.pro uses
>> a 3 point interpolation.
>
>> I would expect the two methods to give a similar answer for a smooth
>> function, but wouldn't be surprised to see them differ for a poorly-
>> sampled, or non-smooth function.
>
>> --Wayne
>

What about wavelet? Does it smooth like Savitzky-Golay filter?
Dave