Subject: Re: Savitzky-Golay filter
Posted by d.poreh on Wed, 11 Nov 2009 15:00:26 GMT
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On Nov 11, 2:12 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

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Cheers

Subject: Re: Savitzky-Golay filter
Posted by wlandsman on Wed, 11 Nov 2009 18:18:31 GMT
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On Nov 11, 5:12 am, Dav_Poreh <d.po...@gmail.com> wrote:
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> something else?
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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

Subject: Re: Savitzky-Golay filter
Posted by d.poreh on Thu, 12 Nov 2009 07:12:08 GMT
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On Nov 11, 10:18 am, wlandsman <wlands...@gmail.com> wrote:
> On Nov 11, 5:12 am, Dav_Poreh <d.po...@gmail.com> wrote:
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> --Wayne

Thanks Wayne.
Cheers

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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>

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

Subject: Re: Savitzky-Golay filter
Posted by wlandsman on Thu, 12 Nov 2009 18:03:26 GMT
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On Nov 12, 3:22 am, Dave_Poreh <d.po...@gmail.com> wrote:

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

Why don't you tell us what data you have and what you want to do with
it?

Yes, there are wavelet smoothing techniques. They differ from
Savitzky-Golay smoothing because -- well, because they use wavelets.
--Wayne

Subject: Re: Savitzky-Golay filter
Posted by d.poreh on Fri, 13 Nov 2009 07:57:14 GMT
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On Nov 12, 10:03 am, wlandsman <wlands...@gmail.com> wrote:
> On Nov 12, 3:22 am, Dave_Poreh <d.po...@gmail.com> wrote:
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Good answer!!!!
Dave
