Subject: Re: Savitzky-Golay filter
Posted by d.poreh on Thu, 12 Nov 2009 07:12:08 GMT
View Forum Message <> Reply to Message

On Nov 11, 10:18 am, wlandsman <wlands...@gmail.com> wrote:
> 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

Thanks Wayne.
Cheers