Re: time−series smoothing

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From: Jake (*wh_at_ever.com*)
Date: 03/22/05

Date: Mon, 21 Mar 2005 18:23:42 −0800

"A.G.McDowell" wrote:
>
> *In article <4239ACF1.55B96907@ever.com>, Jake <wh@ever.com> writes*
> *>I have a problem of an apparent cross−disciplinary nature so I hope that*
> *>justifies the cross−posting.*
> >
> *(trimmed)*
> >
> *>2] Would it make sense to use Nelder−Mead (downhill simplex) method for*
> *>minimizing, even though this problem seems to be a constrained*
> *>optimization? There are three parameters, all constrained to positive*
> *>values and one constrained to integer values, so differentiation doesn't*
> *>seem to be an option. Is there a better derivative−free optimizer for*
> *>this problem? Is there a differentiation method that would work better,*
> *>even for a function that is only partially differentiable?*
> >
> *I note that the Nelder−Mean algorithm is mentioned in Numerical Recipes*
> *to need restarting in practice and is now known to sometimes fail to*
> *converge (google on Nelder simplex counter−example yields e.g.*
> *http://portal.acm.org/citation.cfm?id=589108: the body of the text*
> *requires a subscription, but the abstract is accessible to all). Torczon*
> *has provided a variety of convergence proofs for direct search*
> *algorithms, one of which looks like a variant of the Nelder−Mead*
> *algorithm: googling on Torczon Simplex yields http://www.cs.wm.edu/~va/r*
> *esearch/, which includes a paper "On the convergence of the*
> *multidirectional search algorithm".*

Thank you, A.G.

>
> *Are these methods destined to replace Nelder−Mead? Nice Theoretical*
> *curiosities? Something in between?*
> *−−*
> *A.G.McDowell*