Subject: Re: Wiener filter
Posted by Richard Tyc on Fri, 21 Dec 2001 18:40:11 GMT
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> I'm afraid I can't convert that to code; the only tricky step is one
> that they've given no details about. That step is the one where they
> estimate the power spectrum of the noise. They said that they were
> assuming a "white noise" spectrum, but that still leaves them with the
> problem of estimating the amplitude of the noise. One plausible approach
> is to plot the power spectrum of your signal, and decide to model it as
> the sum of two simple curves with known shapes. Then use regress() to
> fit the data to a linear sum of those two curves.
>
> The part they do explain is trivial. Using the notation from that quote,
> P(f) = S(f) - N(f), where P(f) is the power spectrum of the uncorrupted
> signal, S(f) is the power specttrum of the corrupted signal, and N(f) is
> the power spectrum of the noise. (Note change of notation from previous
> context).

Thanks for your help. I now understand the process a little better but I too
am still unclear on the noise amplitude estimation. I don't quite follow
your idea of "sum of two separate curves" and then using regress().

I have stumbled into a fairly sophisticated subject her. Could you point me
to some references that may explain your idea in more detail ?
The paper does refer to : "Digital Image Processing" by Gonzales which I
have on order AND "Numerical Recipes: the art of scientific computing" by
Press, Flannery et al which I should be able to find around here.
Any others?

Rich