
Subject: Wiener deconvolution, anyone?

Posted by [Richard G. French](#) on Thu, 16 Dec 1999 08:00:00 GMT

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Hi, gang -

I am looking for a 2-D deconvolution routine that uses a Wiener filter. The specific application is to sharpen up some Hubble Space Telescope images of Saturn's rings. I have a reasonable handle on the Point Spread Function (the response to a point source). I've tried using FFT's and the deconvolution theorem, and I've tried doing lots of filtering of the input and output, but it has not been very satisfactory. I've heard good things about Wiener deconvolution but I have not seen a reference that deals with it in two dimensions.

Any of you folks out there in the oil business have any suggestions? I know that is one place where this is done!

Thanks for any suggestions!

Dick French

Astronomy Dept

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Subject: Re: Wiener deconvolution, anyone?

Posted by [Richard G. French](#) on Fri, 17 Dec 1999 08:00:00 GMT

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htonishi wrote:

>

> This is not exactly what you're asking for but you might find something
> useful here

>

> <http://www.numis.nwu.edu/ftp/pub/restorations/>

>

> I've used their max_entropy code with some success.

>

> Howard Onishi

>

THanks, Howard - I can't seem to get through on this site, but I will keep trying!

Dick

Subject: Re: Wiener deconvolution, anyone?

Posted by [htonishi](#) on Sat, 18 Dec 1999 08:00:00 GMT

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Dick,

Hmmm, I just tried to connect and was refused. It looks like they removed public access. Sorry about that. Here is another link that I just checked. It contains a nice one page description of the 2D Wiener filter. No code, just equations. It appears to be part of a master's thesis.

<http://www.cs.indiana.edu/www/hyplan/tveldhui/papers/MAScThesis/node15.html>

Howard

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Subject: Re: Wiener deconvolution, anyone?
Posted by [badaastro](#) on Mon, 20 Dec 1999 08:00:00 GMT
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In comp.lang.idl-pvwave Richard G. French <rfrench@wellesley.edu> wrote:

> Hi, gang -
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> uses a Wiener filter. The specific application is to sharpen up
> some Hubble Space Telescope images of Saturn's rings. I have a
> reasonable handle on the Point Spread Function (the response to a point
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> and I've tried doing lots of filtering of the input and output, but
> it has not been very satisfactory. I've heard good things about
> Wiener deconvolution but I have not seen a reference that deals with it
> in two dimensions.

I hate to mention it here on this group, but I believe there is an IRAF package that does this. Do you have this loaded up at Wellesley? It might be an SDAS package, which you can get from the Space Telescope Science Institute (www.stsci.edu).

* * * * * The Bad Astronomer * * * * *

Phil Plait badaastro@badastronomy.com
The Bad Astronomy Web Page: <http://www.badastronomy.com>
