
Subject: Re: Noise calculation in IDL

Posted by [Suguru Amakubo](#) on Fri, 28 May 2010 22:49:23 GMT

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On May 28, 8:34 pm, Bennett <juggernaut...@gmail.com> wrote:

> On May 27, 10:43 pm, Suguru Amakubo <sfa2...@gmail.com> wrote:

>

>

>

>> Dear all

>

>> I am currently working on a new noise reduction method of a 400x400
>> image. I have successfully programmed the codes in IDL to execute the
>> above. However when it came down to measuring the noise and
>> demonstrating the improvements. My lack of experience in dealing with
>> signal noise made me struggle. Please explain to me how/what:

>

>> 1)to display noise + signal graphically in IDL (I heard the use of
>> histograms will help but not sure what this means)

>

>> 2)the concept of adding white noise to the current signal in order to
>> reduce the overall noise is and how to do this in IDL

>

>> 3)equations I should use when adding/subtracting the noise from the
>> signal

>

>> also if there are any webpages or books that explains the concept of
>> signal noise please reply a link.

>

>> I am sorry if this is a bit off topic but since IDL is popular amongst
>> astronomers who works with images frequently and I have written the
>> code in IDL I thought I can get the most suitable help here.

>

>> I am sorry if any of the above is trivial matter to you I just
>> couldn't find much help on the web so far.

>

>> Thank you for your help

>

>> Suguru

>

> Simply Google Image Denoising

>

> The SNR can be represented by a peak pixel in a signal divided by the
> standard deviation of the background or the summed energy of a signal
> divided by the standard deviation of the background. Keep in mind
> when taking the standard deviation of the background you should make
> sure to not include the signal in your calculation by masking it out.
> I'm not entirely sure how adding white noise reduces the overall noise

> unless it perfectly cancels the existing noise....

Dear Bennett

Thank you for your reply. After searching the new term 'denoising' I was able to get some useful walkthrough guides.

As for the white noise I will be back when I get more information on it.

Again thank you for your help

Yours sincerely

Suguru
