Subject: Re: Noise calculation in IDL Posted by Suguru Amakubo on Fri, 28 May 2010 22:49:23 GMT View Forum Message <> Reply to Message

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On May 28, 8:34 pm, Bennett < juggernau...@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
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> 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