Subject: Re: Image error calculation
Posted by Craig Markwardt on Thu, 01 Apr 2010 16:15:46 GMT
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On Mar 31, 11:07 pm, Suguru Amakubo <sfa2...@googlemail.com> wrote:
> Sorry about that, what I will consider to be a better quality image is
> that the details of the structures (DNA) could be identified better.
>
> So in a nutshell if I see the new image and see more details that was
> previously unidentifiable (due to partial bluring) that I consider to
> be a better image. A 'sharper' image will probably best describe it.
> However the problem lies in quantifying it. (Since saying this image
> looks better just won't do. It needs to be: e.g. x % better than the
> original image).
>
> As for the how I made the image, I basically used one image as a
> 'base' and the took 22 different images of the same DNA that was taken
> immediately after each other and then split the new image into smaller
> subset images and mathematically found a point that is considered to
> be similar and placed it on top of it (then divided to get the end
> image).
>
> My aim therefore is to compare the base image with the new image and
> determine quantitatively by what degree the image has improved.
>
> Sorry about the lack of explanation. Please tell me if the above needs
> explaining further.

If you have a signal-free region of your image, you could calculate the image noise "before" and "after," and show that the noise was reduced.

However, you mentioned the use of JPEG formatted images. Since the data values of JPEG images are not calibrated, you will have a hard time quantifying the amount of exact improvement. Or rather, I should say that JPEGs are calibrated to human perceptual levels which are non-linear (sRGB, Adobe RGB, etc), rather than photometric levels. Better to use TIFF, or at the very least, use JPEG with some agreement with the maker about what the data values mean from a photometric standpoint.

Craig