Subject: Re: Any suggestions for a B&W colour scheme for publication images?
Posted by Steve Eddins on Tue, 25 Sep 2007 15:30:35 GMT
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hradilv wrote:
> On Sep 25, 9:25 am, Tyler <hayes.ty...@gmail.com> wrote:
>> Hello All:
>>
>> I am in the process of submitting some figures to a journal for
>> publication (it has been accepted). I intend to save my supervisor
>> cash by submitting B&W figures for print, and keep the colour images
>> for the electronic version.
>>
>> Here is my problem. Originally, I've been using one of the EOS colour
>> schemes and the figures turn out great. There is excellent contrast
>> between regions, and the positive/negative values are clearly
>> distinguished. Sadly, switching the colour scheme to B&W tends to blur
>> these crucial distinct regions.
>>
>> [snip]
>
> Here's a reference: J. McNames, "An effective color scale for
> simultaneous color and gray-scale publications," IEEE Signal
> Processing Magazine, Vol. 23, No. 1, January 2006, pp. 82-87. (pdf:
> http://bsp.pdx.edu/Publications/2006/SPM_McNames.pdf)

I had a bit of correspondence with McNames about this article. It turns out that his formulas assume a relationship between RGB and gray scale that isn't quite accurate enough to get a fully monotonic scale in gray.

An alternative idea to plot a path through L*a*b* space, as I described here:

http://blogs.mathworks.com/steve/2006/05/09/a-lab-based-unif orm-color-scale/

Since I don't know IDL, I can't provide a translation :-), but if you have a way to convert between sRGB and L*a*b*, the rest of the math is straightforward.

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Steve Eddins
http://blogs.mathworks.com/steve